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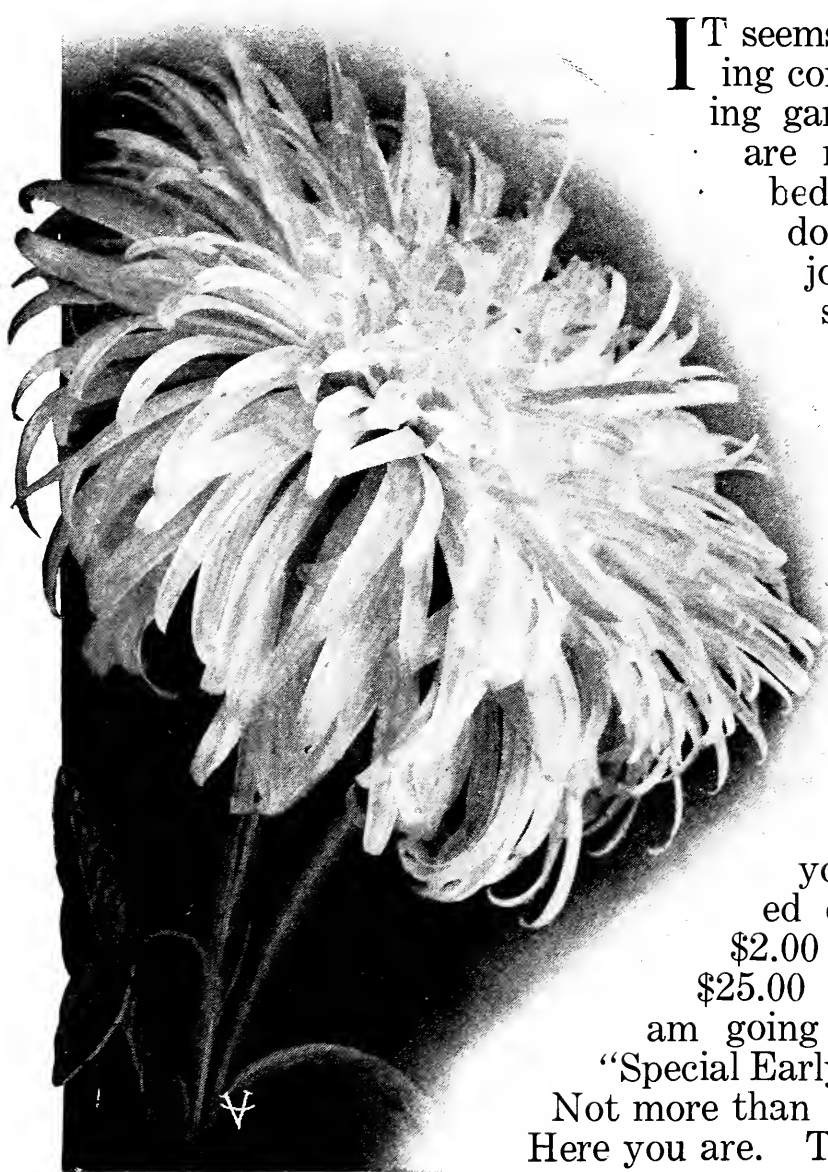
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Some Ideas on Gardening for 1921

By
Clarence Wedge



READY FOR TOMORROW



IT seems only yesterday we were husking corn—tomorrow we will be planting garden. Today thousands of us are making ready. Fixing the hot-bed, testing seed corn and doing dozens of other little odd and end jobs which will put us in ship-shape for spring.

Most important of all you are wanting to get your seeds on hand ready for business—and I am just as anxious to get them to you now so you won't have to wait planting on my account.

Because I like to get your order early, I am making some mighty attractive "Special Offers" for quick orders.

Here's my proposition. Pick out the seeds you need and mail your order before the date stamped on your order-sheet. For each \$2.00 worth of garden seeds and each \$25.00 worth of field seeds ordered, I am going to throw in free one of these "Special Early Order Collections." Your choice. Not more than three collections with an order. Here you are. The very cream of the flower list.

ASTERS

THERE is one little spot that is my very own, the Aster bed. Most everyone who is a real gardener at heart has some favorite flower. The Aster is mine.

They're not naturally particular about soil conditions and all that, in fact, are one of the hardiest annuals, but I try to find a medium light loam and then spade into it to a depth of about one foot, an equal amount of thoroughly rotted manure. Into this I transplant from the hot-bed when they have formed three or four leaves.

I always keep about a three inch mulch of lawn clippings between the Asters as it holds

the moisture which they make such splendid use of. This makes sprinkling unnecessary.

For the earliest bloom you will want the **Comet**, which only grows about twelve inches high. **Semples Branching** blooms later, two to three feet high, grown largely for cut flowers. **Crego's Giant** is a still larger and later, flowers sometimes measuring four to five inches in diameter.

The latest addition to the aster family is the **Rochester** type. The petals like all the flowers of the **Comet**

type, are narrow, very long and gracefully reflex. The flowers are among the largest of the asters.

Special Early Order Collection No. 1 ROCHESTER GIANT FLOWERING ASTERS

I am very enthusiastic about these splendid asters. Not only are the flowers larger, but they seem to be more chrysanthemum-like and double than any sort I have ever grown. By all means include one of these. This collection includes one packet each of the five varieties of **Rochester Asters**. Price 75c or Free with early orders as explained in "To Start With."

BULK AND PACKET ASTER PRICES

	Pkt.	½Oz.	¼Oz.
Comet (mixed colors).....	.10	.25	.40
Semples Branching (mixed).....	.05	.20	.35
Crego's Giant. White, pink, rose pink, crimson, lavender, blue purple, or mixed	.10	.25	.40

	Pkt.
Rochester Giant Flowering Comet	
Rose or White.....	.15
Shell Pink, Purple, Lavender Pink.....	.20
Mixed.....	.15

Some New Sweet Peas

ON THE 21st of March last spring my daughter started a box of Sweet Peas in the front room. As soon as the ground was in shape to plant out-of-doors she made another planting in the garden. When the plants started indoors were about two inches high she set them in the garden beside the ones already there. I tell you the two lots were certainly an eye-opener for me.

Five weeks before the ones started in the garden had a single bloom the ones started inside were full of blossoms.

I would not care to guarantee that it will work as well for you, but I see no reason why it shouldn't. Surely you have a room to start them in and would like the flowers.

I wrote this several years ago but repeat it again because I am more convinced than ever that the early started sweet peas not only come earlier into bloom, but because they get started during the cool spring months. have an extra amount of vigor which carries with them clear thru the summer.

Like the Giant Pansies the **Spencer Sweet Peas** will respond wonderfully to good care while the **Grandiflora** type will stand hardship much better. Of course the Spencer will produce larger flowers. I like them extra well too because of the krinkled or wavy petals.

The New Early Flowering Spencers are just what the name implies. Not only are they early blooming but have a much longer flowering season than the Standard Spencers.

GRANDIFLORA.

See "Old Fashioned Garden" Mix.

SPENCER

Asta Ohn—A soft pinkish lavender.

George Herbert—Bright Rosy Carmine.

Illuminator—Rich Salmon Pink.

King White—Best of all white Spencers.

Vermillion Brilliant—Very Bright Scarlet.

Wedgewood—Silvery Blue.

Pkt., any variety, 15c oz. 50c ¼ lb. \$1.75

EARLY FLOWERING LONG SEASON SPENCERS

Yarrowa—Rose Color changing as the flower develops to a charming combination of light pink standards and blush wings.

Warbler—A Rich Mauve Purple.

Early Morning Star—Deep Orange Scarlet or flame color in standard, with rich orange pink wings, magnificent under glass.

Pkt., (about 50 seeds).....30c

SPECIAL SWEET PEA COLLECTIONS

"Old Fashioned Garden" Mixture

In this mixture I have combined the leading and most showy varieties of the Grandiflora type, the sweet pea of our grand mother's garden. Altho these peas are not waved and crimped as the Spencers, they are indeed fine. Oz. 15c. ¼ lb. 40c. ½ lb. 75c. lb. \$1.35.



A Few
of the
New
Early
Flowering
Spencers

'BLUE RIBBON' GIANT SPENCER MIXTURE

This is a splendid blend of the best varieties of the Giant Spencers, and will surely delight all who want a grand variety of colors.

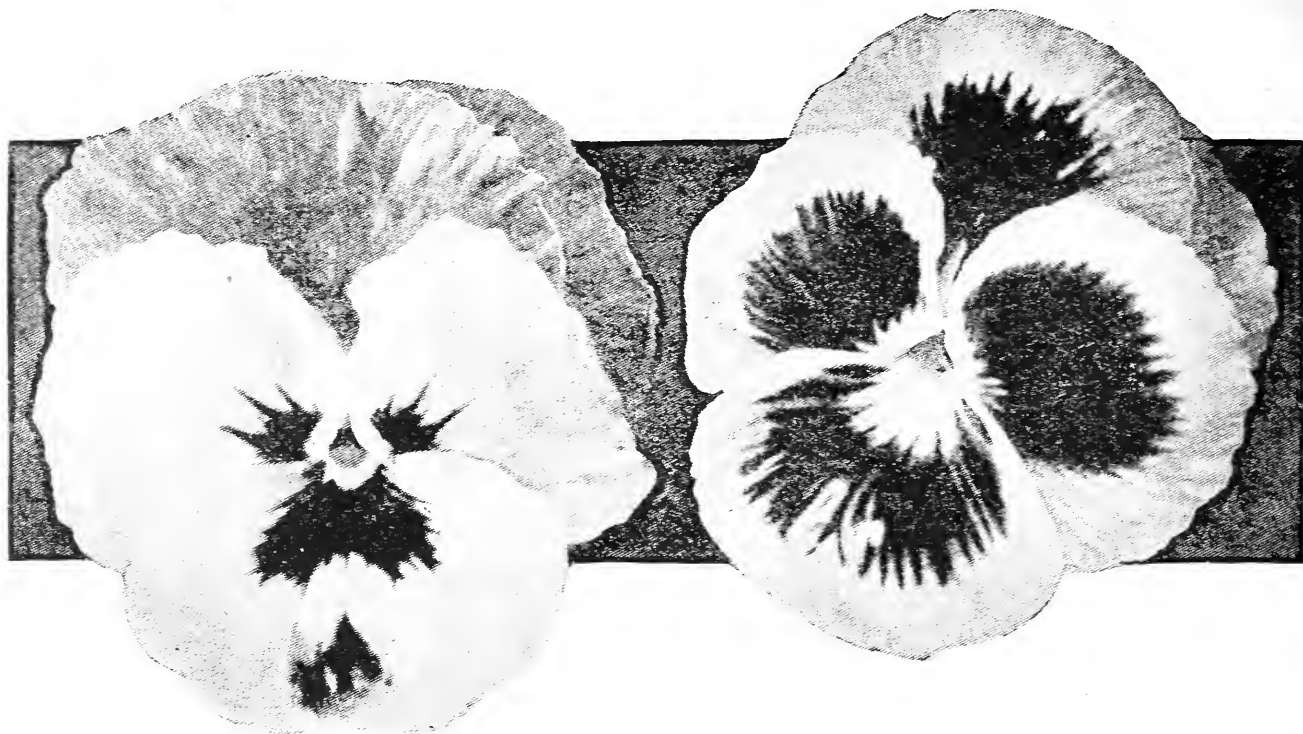
¼ oz. 20c. oz. 30c. 2 oz. 50c.
½ lb. 85c. lb. \$2.50

Special Early Order Offer No. 2

EARLY FLOWERING SPENCER COLLECTION

To my mind the three varieties of the New Early Flowering Long Season Spencers which I am listing this year are the cream of this new class. This new type has the large waved flowers of the Spencer type but flowers weeks earlier and continues to bloom for a much longer period.

One (regular size) packet of each, 3 packets altogether, sent postpaid for 75c or free with early orders—Read "Ready for Tomorrow" on inside front cover.



Just the Place for Pansies

THE finest pansy bed we ever had was out in the shade of an old apple tree, where only the morning sun could strike them. No trouble to grow them there for the soil was loose and mellow and they were cool and moist all summer long.

Spring sowings should be made very early, if possible in the hot-bed or cold-frame, so as to secure good flowers during the early rains. Seed sown in a partly shaded location, where the ground is moist, during June or July will give good flowering plants for fall. If they come into bloom during the heat of summer the blooms may be small at first but as the weather becomes cooler they will increase in size and beauty and make a glorious show in the garden.

Because pansy seed is so tiny it must be covered only very lightly with fine soil and then packed with a board and mulched with a sprinkling of loose dirt or straw. If straw is used it must be removed a little at a time beginning two weeks from seeding when the plants will begin to appear.

Folks all over the country are making money raising pansy plants for the Memorial Day trade. Like as not you could do well at it. Plants must be blooming of course and require some special handling which I would be glad to explain to you if interested. I don't recommend going at it on a big scale until you have tried out your market.

Sometimes I get completely disgusted with the way our cemetery planting is handled. I guess it's much the same other places. Each lot-owner makes an effort to out-do the other and the result is a great display grounds instead of a quiet, restful park as it seems to me the cemetery should be.

Gawdy, highly colored flowers are fine in their places but I would like to see them left out here. If one flower is more suited than all others to cemetery planting, I am sure it is the pansy.

The **Giant** strains are the highest breed. They will not take care of themselves so well as the **Tufted** bedding varieties but are much larger flowered and so especially suited for cut flowers. Top-notch among the Giants, is the **New Early Flowering Strains** which is not only earlier but excels anything I know of in the pansy line.

TUFTED BEDDING MIXTURE—Pkt. .10c

GIANT PANSY—Pkt. (100-125 seeds) . . . 15c

Exhibition Mixture—A splendid mixture of the very finest and largest Giant pansies covering a wide range of rich colors.

Large Pkt. (about 650 seeds) 35c, 2 Pkts. 65c, 3 Pkts. 90c.

Special Early Order Offer No. 3

NEW EARLY GIANT FLOWERING PANSIES

The flowers of these new pansies are of immense size, great substance, fine form and are borne on particularly strong stems. They are mostly 3 and 5 blotched, delicately veined with rich colors.

Something out of the ordinary

About 125 seeds 75c, or free with early orders—
Read "Ready for Tomorrow" on inside front cover.

Nasturtiums Bloom All Summer

NASTURTIUMS seem to have been made for filling in the odd and end places. Between the house and walk, in the flower box, around the old stump or tree where the grass just won't grow, and a hundred other places. It likes poor soil better than rich, if the ground is rich where you wish to plant them it would be well to work some lime rubbish into the soil.

Most of the good flowers are slow in starting, but the *Nasturtium* comes right up in a business like fashion, commences to bloom, and keeps everlastingly at it during the whole summer.

To cover a foundation, a garden fence or what not use the tall growing sorts. The *Lobb's* is remarkable for its brilliant colors. Flowers are somewhat smaller than the other

sorts but are even more showy. This variety likes a fairly rich soil. The *Dwarf* are the best for bedding and borders as the flowers are not covered by the foliage, but stand up and make a brilliant show a long way off.

Mixed Colors	Pkt.	oz	1/8 lb	lb
<i>Dwarf</i>	10	20	50	1.35
<i>Tall</i>	10	15	45	1.00
<i>Lobb's</i>	10	25	60	1.75

SPECIAL OFFER

Backyard Collection, One ounce each of the *Tall* and *Dwarf* mixtures and a packet of the *Lobb's Strain*.....30c

General Flower List

This year I have grouped the flowers according to their usefulness. Not that they cannot be used for any other purpose but if you are looking for a flower for any special purpose I have them arranged for your convenience. Several of the more important and popular flowers are described on the preceding pages.

HARDY PERENNIALS

Canterbury Bells. The well known bell shaped flowers, Mixed Colors..... 10

Columbine. (Aquilegia) Graceful spurred flowers on long stems..... 10

Forget-Me-Nots. (Myosotis) Makes excellent edgings. Blue..... 10

Larkspur (Delphinium) Flowers from June to August. Mixed Colors..... 10

Pinks (Dianthus) Charming, summer flowering, border plants. Double Mixed..... 05

Sweet William. Looks well in solid beds. Requires rich soil..... 10

Shasta Daisy. Large White Flowers. Fine for cutting.... 10

CLIMBING VINES

Cypress Vine. Fern like leaves, star shaped red flowers 05

Ipomea (Moon Flower) Rapid Climber. Wide range of delicate colors..... 10

Nasturtiums (See page 3) Tall Mixed..... 10

Sweet Peas (See page 1) Spencer..... 15



Flowers for Special Purposes

FLOWERS FOR WINDOW BOXES, HANGING BASKETS, Etc.

Nasturtium (See page 3) Tall Mixed....	10
Petunia . Easy to grow. A free bloomer in wide range of colors.....	10
Sweet Alyssum . Dense, low growing, covered with snow white blossoms.....	05
Verbena . Especially adapted for vases and window boxes. One of the best...	10



California Poppy



Garden Pinks

FOR BORDERS AND BEDDINGS

Balsam (Lady Slipper) An old favorite. 1½ to 2 feet high.....	10
Calliopsis . Also greatly prized for bouquets and vases, 6 in. to 2 feet. Mixed..	05
Canterbury Bells . One of the most interesting perennials, 2½ feet high.....	10
Mignonette . Very fragrant. Often added to bouquets for this reason, 6 to 12 in. high	05
Nasturtium , Dwarf. (See page 3) 12 to 18 in. high.....	10
Pansy , Giant. (See page 2) 6 in. high...	15
Petunia Hybrida . With little care will bloom all summer, 12 to 18 in. high.....	10
Pinks (Dianthus) Distinguished for their brilliant contrasting variety of colors, 12 inches high.....	05
Phlox Drummondii . One of the showiest and easily raised annuals, 12 in. high...	10
Portulaca or Moss Rose. Does well in hot dry locations, 6 in. high.....	05
Sweet Alyssum . Unexcelled for borders or beds of white, 4 to 6 in. high.....	05
Sweet William . Also fine for cut flowers, 18 to 24 in. high.....	10
Verbena . Brilliant flowers from June to freezing weather, 1 to 2 feet high.....	10

FLOWERS SUITABLE FOR PARTIALLY SHADED SPOTS

Canterbury Bells . Mixed.....	10
Columbine (Aquilegia) Gracefully spurred flowers on long stems.....	10
Forget-Me-Not . A lovely dwarf plant for damp places, spreads rapidly covering the ground.....	10
Larkspur (Delphinium) Extremely Hardy and dependable.....	10
Pansy . Giant. (See page 2)	15
Snapdragon . For gorgeous coloring, can be equalled by few flowers.....	10

GENERAL PURPOSE ANNUALS

Kochia . Also known as summer cypress or burning bush.....	05
Asters . (See inside front cover).....	10
Bachelors Button . One of the most popular old fashioned flowers	05
Cosmos . Early flowering. White, Rose and Crimson Mixed.....	05
Four-O'Clocks or Marvel of Peru . Another good old fashioned flower.....	05
Marigold . Double tall African.....	05
Salvia Splendens . An ideal plant for pots, window boxes or hedges.....	10
Ten Weeks Stocks . Dwarf German . A favorite for outdoor bedding.....	10
Zinnia . Remarkable for profusion and duration of their flowers.....	10

POPPIES

Double Peony Flowered . Tall growing..	05
Shirley . Beautiful satiny flowers that range in color from a delicate rose to glowing crimson.....	05
Oriental . For gorgeous colorings they have few rivals, a Perennial.....	10
California (Escholtzia) A bright free flowering plant.....	10

**Extra Order Sheets and Return Envelopes Furnished
on Request**

[illegible]

HAVE YOU A FRIEND to whom you would like to have me send a copy of "Some Ideas on Gardening"?

Name	Postoffice	State

NOW WHILE YOU'RE AT IT take time to write me a letter to send along with your order. I'll be mighty glad to hear from you. Maybe you have some questions—come on with them, I'll do my best to answer them. Don't be particular about the paper or writing. I won't notice that. What I want is a letter.

CLARENCE WEDGE.

Be Friendly—Write Occasionally

WAY back in the eighties, when I was just commencing in the nursery business, I used to get out during the winter months and peddle my own trees. Of course I was footing it and that was a slow process. Yet it was during those cold winter days that I got to know scores of folks with whom I have had life friendships.

One thing I learned.

If I was able to rub elbows with a fellow, find out his “tree” problems and then do my best to **help him solve them**, I was sure of a friend and eventually a customer.

So now in this little booklet which I send to you, because it is impossible for me to call on you personally, I have tried to talk over your problems with you in such a way that these pages will be a genuine help to you in your gardening and farming.

You will find some things that you can't agree to—that run counter to your own experience. It's that way in everything. There's where I need your help and will greatly appreciate a word from you setting me right. It's by just such an exchange of ideas that we get ahead and learn how to work to best advantage.

Be friendly—write occasionally.

Cordially,

CLARENCE WEDGE

Dollars vs. Ideas

You have a dollar,
I have a dollar,
 We swap.
Now you have my dollar,
And I have your dollar,
We have neither gained a
 whit.
But you have an idea,
And I have an idea,
 We swap.
Now you have two ideas,
And I have two ideas.
That is the difference be-
 tween
Dollars and ideas.



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AN EXPLANATION

This booklet is sent to you by the WEDGE SEEDS, a partnership firm the members of which are Clarence Wedge, Ralph F. Wedge and Paul H. Petran.

You will notice that we do not offer anything in the way of nursery stock. Should you be interested in this line we would recommend that you write to the WEDGE NURSERY of Albert Lea, which is a distinct and separate firm the members of which are Clarence Wedge and Robert C. Wedge. They will be glad to send you their "Planter's Guide" and price list upon request or have a representative call on you.

Some Ideas on Gardening

by

Clarence Wedge



Asparagus on Toast

I hadn't any idea of starting this out to be a cook book, but when I think of Asparagus I just naturally think of Asparagus on toast because that's one of my favorite dishes.

Asparagus properly grown is so tender that it fairly melts in your mouth. This tenderness is a result of rapid growth, and so we must plant the roots where they will simply jump.

Spread one wagon load of well rotted stable manure over each square rod to be planted—more will do no harm. Over this sprinkle about three pounds of ordinary stock or table salt. As soon as you have worked this well into the soil you are ready to plant.

Figure one dozen roots for each "asparagus eating" member of the family. For farmers, like myself where ground is plentiful, I recommend one hundred plants for a garden.

In town plant eighteen inches apart each way. In the country, two feet apart in rows four feet apart. The tops of the roots should be about four inches below the surface.

Remember that the asparagus bed is a permanent thing and must be set where it will not interfere with plowing and other garden operations. Ordinarily I think best to run one or two rows along the garden fence, not only makes it convenient but the plants are ornamental and make a good hedge.

Those growing for the market will be interested in "Farmers Bulletin" 829—"Asparagus". This of course is free and can be had by merely writing, Division of Publications, U. S. Dept. of Agriculture, Washington, D. C.

We used to grow a long list of different varieties but now we have cut it down to three. Have to have a few varieties to offer so that we have something to suit everyone. If I had myself to suit I wouldn't grow anything but **Bonvallet's Giant**. The stalks of this kind are fat and brittle, and it certainly is the best flavored of all. If you are in a hurry for a bed don't plant anything else, because you can cut asparagus from this a year before the other kinds.

Some gardeners grow the **Columbian White** on account of its light bleached color. It sells a little better on certain markets.

For old time's sake we are still offering **Conover's Colossal**. It is a good flavored, but smaller than the B. Giant.

You folks who wrote last summer asking if it would be best to start cutting asparagus from the newly set roots need wait no longer. When the first stalks poke their heads up this spring—go after them. The thought of that first asparagus makes my mouth water too.

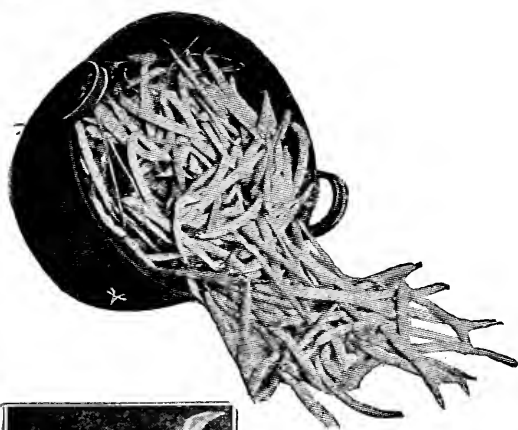
ROOTS—Bonvallet's Giant, Columbian White or Conover's Colossal:

	Doz.	50	100	300
2 year.....	\$.65	\$2.00	\$3.50	\$9.00

Prices on roots include postage or express.

One ounce of seed will sow 60 feet of drill.

SEED—Any Variety—oz. 15c; ¼ lb. 45c; lb. \$1.35; postpaid.



Ten Names for One Bean

I THINK every one of you will agree with me that it is a grand and glorious step forward which the market growers and seedsmen are making to standardize vegetable names. Likely you have not heard of it before but I am sure you must have seen the crying need of such action.

Take beans for example, surely there are an average of ten different names for each separate variety of garden beans. I don't know but that the old-fashioned Navy bean has been abused most of all.

Of course there are many new varieties which are distinct and entitled to a name of their own. I make it a point to try out these in my trial garden and see what account they will make of themselves. The general trouble which I find with them is that they are more apt to be troubled with rust than the older sorts. The reason being I presume that they have been developed with particular thot to the size and quality of the bean itself.

It is generally understood that disturbing the bean bush when it is wet, either from dew or rain, is likely to cause rust. So it is best to do the cultivating and picking when the beans are dry.

Beans will grow and do well on the poorest sort of land. Dry, sandy land which is not suitable to most other garden stuff will often raise a splendid crop of beans. But keep in mind that if you are wanting extra early beans you must plant them on quick, responsive soil which contains an abundance of available plant food. Not only does a rich soil make the crop earlier but it will make the pods more crisp and tender. Like Alfalfa and Clover beans take a part of their own plant food indirectly from the air, but before they are able to do this to any large extent the pods are formed so while dry beans are successfully raised on worn-out soils, snap beans want good land.

Wax Pod

Butter beans, some folks call them because the color of the pod is so much like good creamery butter. I think fully two-thirds of the gardeners in this section are using this yellow podded bean in preference to the green-pod.

Best known of this class is the **Improved Golden Wax**. A dwarf bush which needs no support and is loaded with beautiful golden pods all summer long. There are three reasons for its great popularity: The color and quality of the pod is almost ideal; It is a tremendous bearer; and last, but not least, it is almost immune from the bean rust.

Currie's Rust Proof resembles it very much but the seed bean is black and the crop ripens more at one time.

If space is very limited it would be well for you to plant the **Golden Cluster Wax**. This is a pole bean which of course must be trellised in some way. In quality it is much like the Golden Wax. Pods come in clusters of from three to six large pods and the vines are literally covered from top to bottom during the entire season. It takes the cake for productiveness

Green Pod

I am one of the minority who prefer the green podded to the yellow pod beans. Not that the color has anything to do with the quality but there is quite a difference in flavor and to my notion the green pod has the edge on the yellow.

My prime favorite is **Fields First Early**. It has all the good qualities of earliness, health, and bearing of others in its class, and in addition I think, an especially fine flavor. Bean is brownish in color. Big, fat wrinkled pod.

The **Stringless Green Pod** would be my second choice. This is no doubt a better market bean than Fields, the pods being round and smooth.

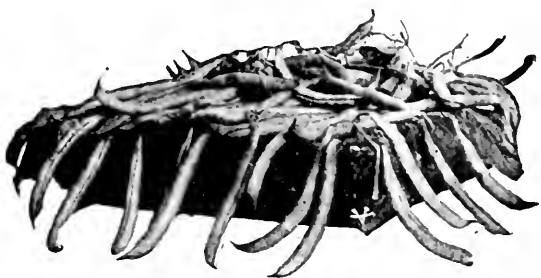
On wet cold land the **Red Valentine** seems to do somewhat better than the other varieties. These green pod varieties all make splendid beans for shelling green and making old-fashioned succotash.

We used to think that the bush beans were the only ones worth while, and would not be bothered with the pole kinds. But after trying the **Kentucky Wonder** and finding that it would furnish fresh green beans all summer and yield three times as much as the bush kinds, we would not be without it. The poles should be 6 to 8 feet above ground, and if put in right will last for years. Or the vines may be planted along a wire fence.



Golden Wax

The kind our grandfathers used to plant in the corn is the **Horticultural Pole**. This is a sort of general purpose bean that can be used almost any way. Some people like it used as a string bean, while others let it get partly ripe and use it for succotash. Those who have to plant their beans on cold, wet land will find that the Horticultural Pole will do about the best of all.



Any of the kinds we have discussed so far may be ripened up and used for winter. I think them just as good on the table as the navy, but they don't look as well, and of course do not sell for as much on the market.

Lima Beans

I can't understand why it is that so few people grow the Limas. Maybe other people don't like them as well as I. Everyone of you who have never tried them and can possibly spare the room ought to try at least a few. Their flavor, green or ripe, is simply out of sight, and if the season is at all favorable it isn't any trick to get a fine crop of them even up here in Minnesota, altho our seasons are very short and it is best to hurry them along in every way possible. In our kitchen garden I have always planted them by just poking the seed into the ground, eye downward. The idea being that it would be a little easier for the root to push the big seed out of the ground as you know it does. Then I have always tried to select the best spot in the garden. If you have light soil, well manured and in full sunlight that's the place to plant them.

Henderson's Bush Lima will make a good one to begin with. It is smaller than the other kinds and not quite so good flavored, but it's earlier and the surest thing you can raise. The kind we have always planted for our own use is the **Burpee's Bush**. They are a little harder to raise, but worth all the extra trouble. Much larger and finer flavored.

The **King of the Garden** is a pole lima.

Navy Beans

Any of us who didn't mature our **Navy Beans** this year can't put much blame on the weather. Even Navies planted from California seed ripened up with us.

But it may be a different story next year. If the season is a short one, those who plant southern seed will be a disappointed lot.

My experience with Navies simmers down to this—First-class Minnesota grown seed of the earliest strain, planted one week after corn-planting time, on light, well-drained soil, three inches in the row, rows far enough apart to use horse cultivator or hoe (depending on which you will use), gives the best results.

Remember, a crop of beans, like Clover or Alfalfa leaves the land in better shape than it finds it.

Each one of you should send to your congressman and have him supply you with Farmers Bulletin No. 256 titled "Preparation of Vegetables for the Table" by Maria Parloa. Some splendid suggestions for cooking beans.

Farmers Bulletin No. 839 tells how to put up beans by the cold pack method—get this one too.

Two pounds will plant 100 feet of drill.

				Prepaid
WAX POD	Pkt	½ lb	lb	3 lb
Improved Golden Wax.....	10	20	35	.90
Currie's Rust Proof.....	10	20	35	.90
Davis Kidney Wax.....	10	20	30	.80
Golden Cluster Wax.....	10	20	35	.90
GREEN POD				
Stringless Green Pod.....	10	20	35	.90
Field's First Early.....	10	25	45	1.15
Red Valentine.....	10	20	35	.90
Horticultural Pole.....	10	25	40	1.00
Kentucky Wonder.....	10	20	35	.90
LIMA BEANS				
Burpee's Bush.....	10	30	55	1.35
Henderson's Bush.....	10	25	40	1.00
King of the Garden Pole.....	10	30	50	1.20
NAVY				
Northern Grown.....	5	10	20	50



Field's Early

Beets for the Table

I am a crank on Beet Greens. Dandelions and all such may be well enough for those who like them, but for myself I will take the genuine article, if you please.

You know the taste of that first mess of beet greens. You don't take time to look at the color of the flesh or any other hair-splitting points—you know it's the best garden stuff you ever put into your mouth and that's enough.

Because I am so fond of the greens I have paid special attention to secure a variety which would be ready for greens before any of the others. I must confess there are a number of sorts which come almost as early as Crosby's Egyptian, but I guess it heads the list.

But later on we all begin to get picky. You want the best quality beet to be had and one with a good red color, that will stay with it when boiled or pickled. So I had to do a lot of testing which brought me around to the **Detroit Dark Red**. I should say it is about ten days later than the Crosby's when both are planted at the same time.

I like this one extra well too because of its even shape and dark red color. It is almost perfectly round and as smooth as beets get to be.

Perhaps you have tried the **Eclipse** and like it first rate. It's very much like the **Detroit** but does not hold its color quite so well when cooked. The **Early Blood Turnip** belongs in the same class but is turnip shaped instead of round like the other two.

The **Long Smooth Blood Red** is a large, late sort, which some folks like for winter storing. It keeps equally well with the **Detroit**.

My idea is one packet Crosby's for extra early and the balance **Detroit Dark Red** seeded at intervals of three weeks.

One ounce will sow 50 feet of drill, 5 to 6 pounds to an acre.				
TABLE BEETS—				
	Pkt.	Oz.	¼lb.	1lb.
Detroit Dark Red	.10	.15	.45	\$1.25
Eclipse	.10	.15	.50	1.35

	Pkt.	Oz.	¼lb.	1lb.
Early Blood Turnip	.05	.10	.35	.90
Crosby's Egyptian	.10	.15	.45	1.25
Long, Smooth Blood Red	.05	.10	.35	.95



Detroit Dark Red

Swiss Chard

For midsummer greens most of you know about the Swiss Chard. Even during the hottest days of summer the big brittle leaves are blanched almost white. As you cut them off new ones come on, which seem better than the first. I only list the **Lucullus** because I think it's far superior to any of the older varieties. Has crinkled leaves and real quality.

	Postpaid—Pkt.	Oz.	¼lb.
Lucullus	\$.05	\$.15	\$.45

Mangel Beets

(See also page 36)

When I used to raise lots of chickens, I made it a point to save a good batch of Mangel beets every year to feed them during the winter months when it's so hard to get them anything that's green. I found that it paid big. You could notice the difference when you came to count the eggs.

Cows need this green feed just as much as chickens and I don't know but a little more. You know the fruit growers say "An apple a day keeps the doctor away." Well, the Mangel Beets have the same effect on stock. Not only cows but hogs and sheep

as well. I never tried feeding it to horses so don't know about them. Good healthy cows mean a good healthy milk check.

Experts say that the Yellow varieties have a higher feeding value than the Red and I guess it is true, otherwise everyone would raise the reds because they yield so much heavier. I think you get about the same amount of good feed from either color per acre.

In order to get the biggest yields it is necessary to get them started early in the season, say in April or May. Then you can get up around 25 tons to the acre without much trouble.

Probably the best known and the biggest yielder of all is the **Mammoth Prize Long Red**. It makes a big root that sticks almost entirely out of the ground so that it is no trick to harvest.

Next in popularity is the **Golden Tankard**, the top of the list of yellow varieties. The **Giant Feeding Sugar** has some of the qualities of both the Sugar and the Mangel beet. It yields between the Mammoth Prize and the Golden Tankard.

Six to eight pounds of seed are required per acre.				
MANGLES OR COW BEETS—				
	Oz.	¼lb.	1lb.	5lb.
Mammoth Prize, Long Red	.10	.20	.65	\$2.75
Golden Tankard	.10	.20	.65	2.75
Giant Feeding Sugar	.10	.20	.65	2.75



Start Your Own Cabbage

By all means start your own early cabbage plants. Of course it may be easier to buy them, but how much more satisfaction if you grow them from start to finish. Three inches of sandy-loam soil—which has been heated in the oven to kill weed seeds—in a box with sides not over five inches high. Seed the cabbage rather thin as you can generally count on three-fourths of the seeds growing. You need only cover the seed about one-half inch.

Make sure that the box gets all the sunlight that is possible. Plants grown in the shade are sure to be spindly and worthless. Do not over water, better too dry than too wet. The ideal temperature is about 50° to 60°.

Early Cabbage

About two weeks ahead of any other cabbage, the **Early Jersey Wakefield** is ready for market. The heads are pointed or conical and firmer than any other variety of extra early I have ever grown. So compact that you can plant them a foot apart in the row.

But like most other extremely early vegetables it cannot compare with others which come on a little later. On this account most home-gardeners who plant only one early variety use the **Copenhagen Market** which makes a head nearly twice the size of the Wakefield and will stand for weeks without bursting. Heads are round. It's a grand all-summer cabbage.

One ounce of seed should produce about 2,000 plants.

	Pkt	oz	¼ lb	1 lb
Early Jersey Wakefield.	\$.10	\$ 35.	\$1.00	\$3.00
Copenhagen Market...	.15	50.	1.25	3.75



Copenhagen Market

Late Cabbage

Late or Winter Cabbage seed should be planted out of doors during May either in a small seed bed or directly into the field. Now that cabbage seed is reasonable in price I don't know but the best way to do it is to seed into the field and not bother with the transplanting. If you do this be sure to plant thick enough so that the cut worms can have their innings and still leave enough for a stand. I have made some suggestions on page 40 how to fight them.

Year in and year out we have found cabbage a better paying crop than almost anything we could raise. The price has not been what it might be this season, all the more reason for expecting something better next time.

No reason for buying plants, when its so easy to grow your own.

Unless you have tried some other kind and are sure you like it better, I would plant the **Danish Ballhead**. This is the standard late kind, and I don't believe myself that we have any other to compare with it. Keeps all winter. The head is round and hard as a rock. I am going to put in a big patch this summer.

The **Sure Head** and the **Premium Late Flat Dutch** are both good kinds but I don't think they are quite as good keepers as the Ballhead.

The **Perfection Drumhead Savoy** has crinkled leaves and is used a good deal in salads and such things. Remember, it has a loose head and will not do for a main market crop.

For a pickling cabbage everybody uses the **Red Dutch**.

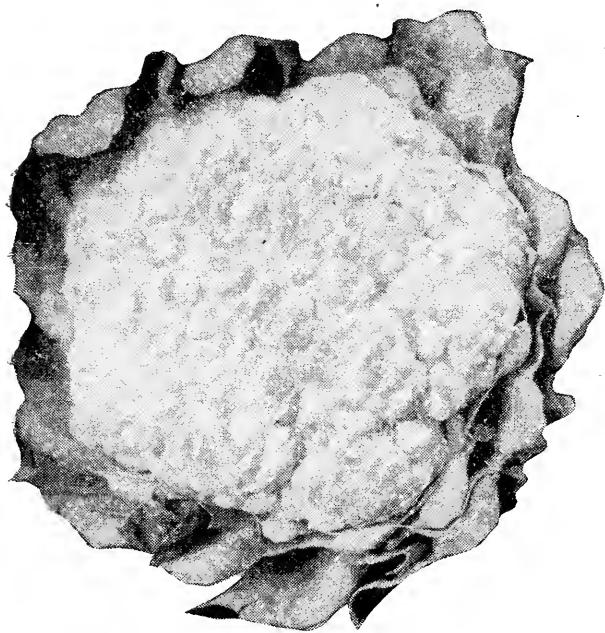
LATE OR WINTER	Pkt	oz	¼ lb	lb
Danish Ballhead	\$.10	\$.30	\$1.00	\$3.00
Surehead . . . . .	.10	.25	.80	2.50
Premium Late Flat Dutch . .	.10	.25	.75	2.50
Perfection Drumhead Savoy.	.10	.30	1.00	3.50
Red Dutch . . . . .	.10	.40	1.25	4.00

Read about the Cabbage Worm on Page 40.



Danish Ballhead

Only One Cauliflower



THIS is the queen of the cabbage family and easy to grow if started early so as to make its head before the hot days of mid-summer. And so the earlier the variety the better.

Early Snowball is the standard everywhere. It may be sent out under a dozen different names by different seedsmen, but it remains the same under whatever fancy name it sails. For us in Minnesota and North Iowa there is no second best variety and so I decline to catalog any other.

	Postpaid Prices			
	Pkt	1/4 oz	1/2 oz	oz
Early Snowball.....	\$.10	\$.65	\$1.15	\$2.00

Egg Plant

Most everyone who has a hot-bed starts some Egg Plant. It should be planted about the same time as Peppers or early Tomatoes and tended in the same way.

Black Beauty is the earliest variety and seems to be much the best suited to our climate.

	Postpaid Price	
	Pkt	oz
Black Beauty.....	\$.10	\$.65

Celery Growing

Those who understand handling celery and have land suited to it find it one of the luxuries of the garden. Moist, extra rich ground is the making of celery.

If you have water close by your hot-bed you can plant it to celery, six inches apart each way, after the bed has gone out of use for early plants. The rich soil and manure, with plenty of water, will give a strong growth that will exclude the light and blanch the stalks fit for the table.

Altho the Golden Self Blanching will not really blanch itself as the name suggests, it is the easiest of all varieties to blanch and is especially fine flavored.

An ounce of seed should produce about 3,000 plants.

	Postpaid Prices			
	Pkt	oz	1/4 lb	1 lb
Golden Self Blanching	\$.10	\$.40	\$1.25	\$3.75
White Plume.....	.05	.20	.60	1.75
Giant Pascal.....	.05	.25	.70	2.00
Celeriac Giant Erfurt .	.05	.25	.80	2.50

Garden Cress

Thousands try to grow celery and fail. Here is a vegetable almost as crisp and refreshing, that everyone can grow without half trying. Sow it early in the hot bed to use with lettuce. Sow it the first thing in the open ground, sow in August to have during the cool fall months, and finally sow it in the window box to have for Christmas. Did you ever eat cress sandwiches? Fine Curled is the best garden variety; very ornamental. Water Cress is suitable for planting only around springs or where there is running water. It cannot be planted successfully in the garden.

	Postpaid Prices		
	Pkts	oz	1/4 lb
Water Cress.....	\$.15	\$.60	\$2.00
Garden or Pepper Grass.....	.05	.10	.25

Kohl Rabi

This is a little known vegetable, a sort of turnip cabbage, that ought to be one of the most popular of the cabbage tribe. In my family we would sooner be without both the turnip and the cabbage than without the juicy mild flavored, apple-like bulbs of the Kohl Rabi.

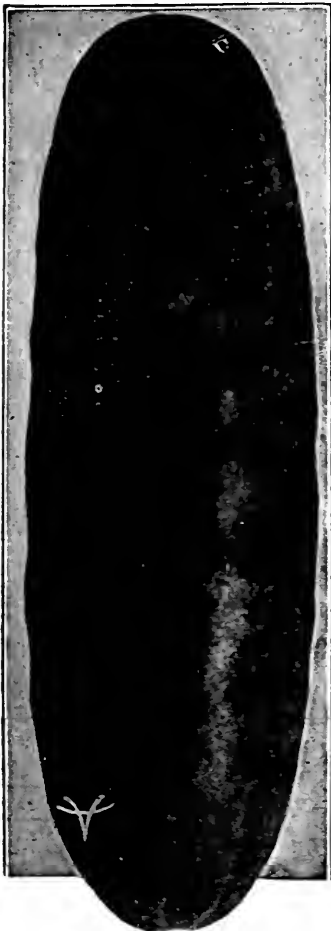
The children watch the growing bulbs and as soon as they get the size of an apple, pull and eat them raw. When picked at this stage they are free from the strong turnip taste, and cook up into the most delicious of table vegetables. Try a packet, sow early, thin to 8 inches in the row, rows two feet apart. And if you are not pleased I want to know it and make it right.

Early White Vienna is the best kind for the garden. Don't let the bulbs stand and get strong and woody and blame me. Use as soon as the size of a peach.

One ounce will sow 150 feet of drill.

	Postpaid Prices			
	Pkt	oz	1/4 lb	1 lb
Early White Vienna...	\$.05	\$.30	\$1.00	\$3.50

Cucumbers for Pickling or Slicing



Fordhook White Spine

FOR your home garden you want a variety of cucumbers that is good for both pickling and slicing. Some of the extra early kinds such as the **Early Green Cluster**, **Boston Pickling** and **Everbearing** are only used by market growers who want something very early that can be sold for pickling. They seldom get longer than five or six inches.

Of all the different kinds I have tried I think **Fordhook White Spine** is the most practical for your home garden. In pickling them you will find that they hold their dark green color longer than almost any other. Remember this is fine for both pickling and slicing.

Of the early pickling kinds for gardeners I prefer the **Boston Pickling**, but I find a good many disagree with me on this, so I guess it's a good deal a matter of personal taste and what the market calls for. The **Improved Long Green** will make fruit from eight to twelve inches long. Fine for slicing.

About the best way to fight the Cucumber bug is to plant the seed six inches apart in drills. The bugs are almost bound to get some of the plants in spite of everything, and then you can thin what are left to the proper distance, which is 2 to 3 feet apart.

One ounce of seed will plant about 50 hills; 2 pounds to the acre.

	Pkt	oz	Postpaid Prices	
			$\frac{1}{4}$ lb	1 lb
Early Green Cluster.....	\$.05	\$.15	\$.40	\$ 1.25
Boston Pickling.....	.05	.15	.40	1.25
Everbearing.....	.05	.15	.40	1.25
Fordhook White Spine.....	.05	.15	.40	1.25
Improved Long Green.....	.05	.20	.50	1.50

Quick Growing Carrots

Carrots for summer and fall should be of the quick growing kind and should not be allowed to grow to great size. To have them in perfection it is necessary to sow frequently during the season.

Chantenay seeded every two or three weeks will fill the bill splendidly. It's one of the half-long sorts which are so generally in favor. The only differ-

ence I can find between it and the **Danver's Half Long** is the tip. The **Chantenay** ending off blunt while the **Danver's** tapers gradually. Perhaps too the **Danver's** is more inclined to branch. Of course no carrot will make a perfect root unless it is grown on a loose sandy loam soil.

The **Chantenay** will also make a great winter carrot if seeded in rich ground about the Fourth of July. Of course the root must be well matured otherwise it will not keep.

"Beauty Doctors" tell us that carrots have medicinal properties which make them very valuable.

One ounce will sow 100 feet of drill; four pounds required to the acre.

TABLE	Pkt	oz	Postpaid Prices	
			$\frac{1}{4}$ lb	1 lb
Chantenay.....	\$.05	\$.10	\$.30	\$.90
Danver's Half-Long.....	.05	.10	.30	.85
Oxheart.....	.05	.10	.30	.90

Stock Carrots

(Also see page 36)

For stock feeding carrots take a high place. Almost a health insurance for horses and especially young growing colts through the winter, and cows are greatly benefited and increase their flow of milk by having such a change in their regular ration.

For best yield sow real early. I have had splendid crops from May seeding but always want to get the seed sown in April, if possible. Lay out the rows 2½ feet apart and thin plants to 8 or 10 inches. **Mastodon**, the big white variety, is the kind to use.

3 or 4 pounds of seed to the acre.

	Pkt	oz	$\frac{1}{4}$ lb	1 lb	5 lb
Mastodon.....	\$.05	\$.10	\$.25	\$.75	\$ 3.25



Chantenay Carrots

Three Weeks More of Sweet Corn



SEVERAL years ago on one of my trips to North Dakota I discovered something brand new for early roasting corn. In Dakota they were able to use this corn a week before the Peep O'Day.

The following season I gave this corn its first trial in our own garden. The results were remarkable. Fully a week before any corn was on our city market, we made our first picking.

We sold the **Dakota** at 30c per dozen ears. People drove out from town and begged corn from us at almost any price. Those who plant the **Dakota** will have a monopoly of extra early corn. I believe it is positively the earliest corn on earth. Illustrating the extreme earliness of this variety, we have planted the first ripe kernels of the year's crop of the **Dakota** on the second day of August and before the killing frost of September, in spite of one of the coldest seasons on record, they had grown up and were in tassel.

For main crop and quality corn the **Golden Bantam** has no equal. In fact, it is the first true sweet corn of the season—the **Dakota** being a variety of the flint. I used to plant several varieties in May, some early, some medium and some late. Now after the **Dakota** we plant the **Golden Bantam** at intervals of two weeks till the middle of July, and have young ears of this delicious kind coming on to the table till frost takes the last planting.

I find that by picking a bushel or two of ears at the end of the season and leaving them in a cool, dry, airy shed, good boiling ears can be kept fit for the table

nearly two weeks without moulding. A week added by planting the **Dakota**, two weeks added by picking **Golden Bantam** at the time of the last frost—three weeks added to the table corn season.

The **Peep O'Day** and **Early Minnesota** are dwarf varieties of only fair quality that have been pretty much lost sight of since the **Golden Bantam** came into use. **Black Mexican** is a medium season sort of highest quality, but its color is against it.

Stowell's Evergreen and **Country Gentleman** are the standard late varieties that should be used if you do not plant in succession as I recommended. Don't forget that by planting a hill of three beans between each hill of corn you can grow a crop of beans, perhaps all your family can use, right among your corn, without hurting it in the least.

One pound of seed will plant 100 feet of drill or about 150 hills.

		Postpaid Prices		
EARLY	Pkt	½ lb	lb	3 lb
Golden Bantam.....	\$.10	\$.20	\$.30	\$.75
Dakota.....	.10	.20	.30	.75
Peep-O'Day.....	.10	.15	.25	.65
Early Minnesota.....	.10	.15	.25	.65
Black Mexican.....	.10	.20	.30	.75
Early Crosby.....	.10	.20	.30	.75
LATE				
Stowell's Evergreen....	.10	.20	.30	.75
Country Gentleman...	.10	.20	.30	.75
POP CORN				
Japanese Hulless.....	.10	.15	.25	.65

Give Me Lettuce for Dessert

IF I didn't have a hot bed for any other purpose I would make one to grow lettuce. Lettuce grown quickly during the cool weather of early spring in a hot bed is the real thing. I never take any other dessert as long as that is on the table.

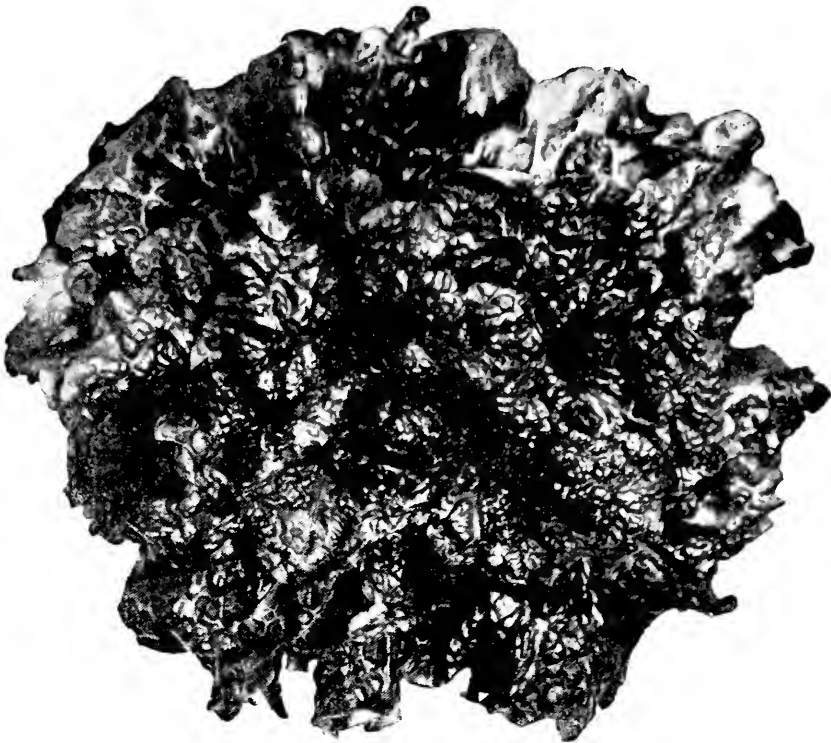
Grand Rapids is the true forcing variety for this purpose. All growers admit this. Put out the rows six inches apart and shear off with a pair of large scissors as fast as the plants get big enough to use. No bitterness in lettuce grown this way. Don't neglect to cultivate the plants because they are in the hot bed.

For out of door lettuce the Black Seeded Simpson is the superior sort. Strong growing, tender, foliage with a blanched appearance like celery. Some like a colored lettuce. Prize Head is a large loose headed kind, with leaves tinged reddish brown. I used to think there was nothing like it till I got hold of the Simpson.

Head lettuce is in a class by itself. As the weather gets warm common lettuce gets bitter and only leaves that are blanched by growing in heads like a cabbage are fit for use. Few things from the garden are more appetizing on the table on a hot summer day than a head of white ice-like lettuce. Few people seem to know how to grow it, and it is generally considered a luxury. Just two things are required after you have the right variety: First, plenty of room between the plants, not less than eight inches, ten would be better; second, extra rich ground. Of course they need good clean cultivation.

Our favorite variety is the California Cream Butter. A pretty long name, but quite descriptive of its splendid quality. It is absolutely tip top.

May King is a dwarfish kind with interesting miniature heads, our second choice. Keep in mind



Black Seeded Simpson

that all lettuce likes a rich soil, plenty of moisture and when the sun gets hot, a shady place which you can easily provide by using a few stakes and a shade of cheese cloth or burlap.

If lettuce has grown until rather too old for salad, it may be cooked and makes a very palatable dish. Wash four or five heads of lettuce, carefully removing thick, bitter stalks and retaining all the sound leaves. Boil in salty water for about ten minutes to fifteen minutes, then blanch in cold water for a minute or two. Drain, chop lightly and heat in stewpan with some butter, and salt and pepper to taste.

One ounce will sow about 200 feet of drill.

Postpaid Prices
Pkt oz ¼ lb 1b

LOOSE LEAVED KINDS

Black Seeded Simpson.....	.05	.15	.35	1.25
Grand Rapids..	.05	.15	.40	1.35
Prize Head (tinged brownish red).....	.05	.10	.30	.90

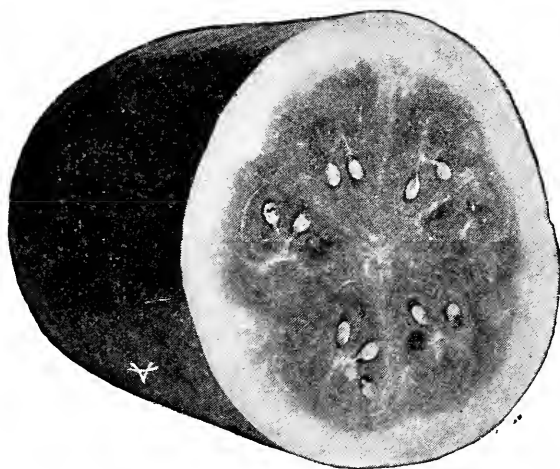
HEADING KINDS

California Cream-Butter.	.05	.15	.35	1.25
Hanson Head...	.05	.15	.35	1.15
May King.....	.05	.15	.30	1.00
Big Boston.....	.05	.15	.45	1.50
Tender Heart...	.05	.15	.35	1.15

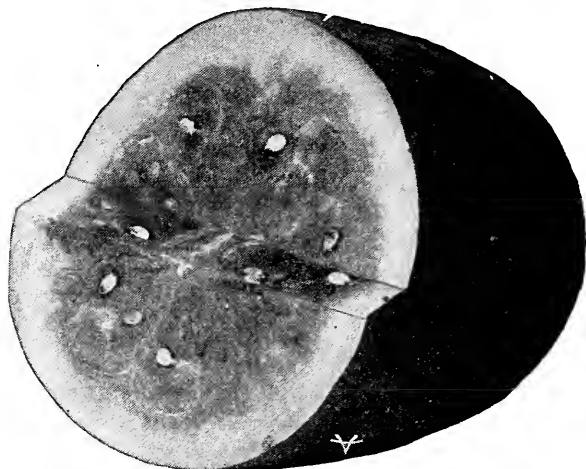


California Cream Butter

That First Watermelon



No
Melon
compares
with the
Kleckley
Sweet
for flavor



ONE of the pleasantest recollections of my boyhood home is that we always had plenty of melons. We lived in town too, where it is supposed to be impossible to grow them. But father always saw to it that there was a good sized corner of the garden devoted to melons, and when they began to get big and handsome he and I would go out together morning after morning and look them over, and great was the excitement when we brought in the first ripe one of the season. We always kept it till the hot part of the day and then in the shade of the big oak at the back door the whole family gathered round, father carved up the luscious slices and passed them around. I have a mental photograph of that little family meeting, that I will not trade for the costliest painting in the world.

If I have ever been any good to the world it may be because father and I grew melons together in the back lot. And so when I started out for myself on a cold clay soil near Albert Lea, I was bound to have melons for my own family. I found that by using plenty of manure I could grow almost as good melons as father did on a sandy soil. I fully believe that with some little care melons can be grown almost anywhere in the country.

Father always used a lot of manure well spaded into the hill before planting, used plenty of seed so that the bugs might take a lot and still leave some, and then thinned to four plants to a hill, which he planted about ten feet apart each way.

Now by "a lot of manure" I don't mean a shovel full, but more nearly half a bushel of well rotted manure, chicken manure if you have it. If you can't afford so much put in fewer hills. For the bugs, use **Tobacco Dust** put on plentifully. It doesn't cost much and if kept piled up about the stems of the little plants will drive off the borers which in some seasons are a bad pest.

If the weather is extremely dry and you are willing to go to a little trouble give the hills a thorough watering once a week till you have a rain. Keep in mind that a half dozen hills well cared for are worth an acre of neglected plants.

It's not always an easy trick to make sure that a watermelon is ripe. You might just as well pick it

and throw it over the fence, as to plug it. This ends the process of ripening and it immediately starts to decay. My system is to snap it; if it had a deep, hollow, bass sound I take a chance and with my hand press upon it firmly. (not hard) A crackling sound on the "insides" furnishes the final proof. Of course we are all fooled now and then but this is the best system I know of.

Kleckley Sweet is everywhere agreed to be the quality melon for Minnesota and North Iowa. And we can grow melons here that are far better than the southern shipping kinds. A long solid, dark skinned melon, red cored, white seeded. One that seldom fails to ripen here when given a fair show.

Plant part of the patch to **Cole's Early**. A small round melon that is a week or so earlier than the Kleckleys. Striped light and dark green, bright red flesh, black seeds. North of St. Paul plant mostly to Cole's.

One ounce will plant about 30 hills; four pounds to the acre.

	Pkt	oz	Postpaid Prices	
			$\frac{1}{4}$ lb	1 lb
Coles Early.....	\$.05	\$.15	\$.35	\$ 1.00
Kleckley Sweet.....	.05	.15	.35	1.00
Ice Cream.....	.05	.10	.30	.85

Have you ever had trouble with the melon bugs? You can fix them easily. Read how on Page 40.

N. B. D. Writes from Manitowish, Wisconsin

"That 'watermelon' story in your 1920 seed catalog received today, touched a responsive cord in my heart—I was born on a farm 9 miles SW of A. Lea—amongst my most cherished and earliest recollections is that of my father raising the most delicious melons. What feasts we enjoyed at midday after the melons had cooled off in the cyclone cellar over night!

What rhapsody, as we buried our faces 'clean to the ears' in those melting, honey-like slabs of sweetness.—

There may be melons grown some where in the good old U. S. A. as delicious as our Minnesota melons, but like the man from Mo.—'You've got to show me.'"

Which Is Your Muskmelon?

As melons are easily injured by cold, it is not advisable to plant until all danger of frost is over and the ground has begun to warm up. For very early melons the seeds should be planted in hot beds, in old strawberry boxes, plants bands, inverted sods, or directly in the soil of the bed. By starting the plants in hot-beds the melons will be ready for the table two or three weeks earlier than as if started in the open.

Melons should be given frequent shallow cultivation until the vines fill most of the space between the rows; after this, very little attention will be needed, except to pull out weeds by hand.

In small city gardens melons can best be planted along the edge of the garden, where they can run half onto the grass and half into the garden. Remember to fertilize the hill thoroughly. Muskmelons need this the same as watermelons.

When a muskmelon is ripe the stem will fairly drop off the melon, just a light touch is necessary. If they stick the least bit it is best to leave them a little longer.

The quality of melons depend considerably upon the soil on which they are grown. Light sandy land gives them ordinarily the most desirable quality. Keep in mind too that a quick grown melon is apt to have the best flavor.

A melon patch is often tramped down so badly before the fruit is even started to ripen, that half the crop is lost. The fruit on the end of a stem that has been stepped on, has poor chances to mature. Of course it's hard to keep the children out of the patch, but try to show them where not to step. Best plan is to have the melon patch belong to them, then they are more likely to take an interest in it.

The **Emerald Gem** is earlier, generally the first to ripen with us, nearly round, smooth-skinned, brownish green outside, with rich yellow flesh.

Of the yellow-fleshed kinds, the **Osage** is a prime favorite. Slightly oblong in shape, skin dark green with salmon colored flesh, quality best.

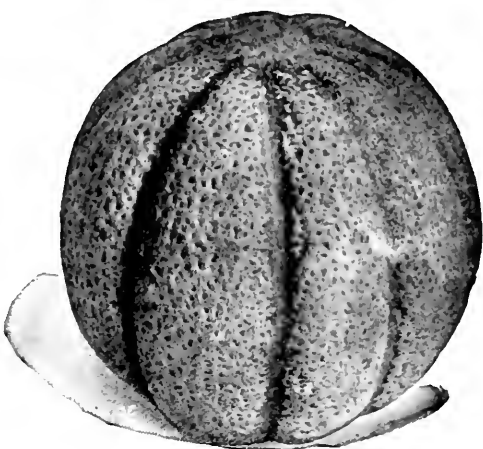
The **Honey Dew** is the new variety which you see on the markets, selling at fancy prices, and worth them too if you haven't any of your own. It takes some petting to get it to mature in our climate but it can be done if the season is at all favorable. I wouldn't advise you to plant heavily of this variety, however, as with us it is more or less of a gamble. The rine is a whitish green and is almost perfectly smooth. By all means give it a trial.

The **Rocky Ford Cantaloupe** is the most popular of the green-fleshed kinds. This is a small, round, deeply netted melon, so uniform in size and shape that they are shipped in crates in car load lots from the melon growing districts of Colorado and are a standard article in the market. They grow so thickly on the ground that if I remember right I counted six of them touching each other in our patch this summer. In the town garden where you have only a little room, the kind to plant is the Rocky Ford.

One ounce will plant 50 hills; two or three pounds for an acre.

	Pkt	oz	Postpaid Prices	
			$\frac{1}{4}$ lb	lb
Rocky Ford	\$.05	\$.10	\$.30	\$1.00
Osage	.05	.10	.35	1.25
Emerald Gem	.05	.10	.35	1.25
Honey Dew	.10	.25	.75	2.50

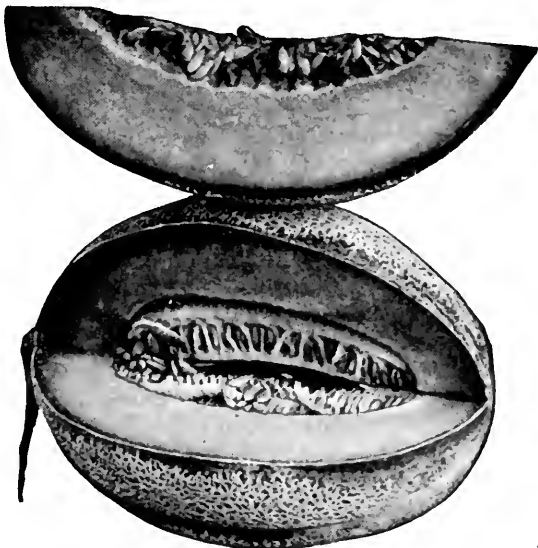
Read about the Melon Bug on Page 40.



Rocky Ford

ATTENTION MARKET GROWERS: Minnesota is sensible and makes every seedsman mark the germination test on the field seeds which he sends out. It has seemed to me for a long time that folks who bought garden seeds in quantity were entitled to the same information. If you will make a note on your order we will make sure that each package of an ounce or over has the test given. Of course I can't guarantee that just this average will grow in the field but it will give you some basis on which to judge your planting. I am so proud of the vitality of the seed which I am sending out this year that I would like to put test on each package. It would be a big job tho. Maybe I will do it another year.

Send in a list of the seeds which you need. I will be glad to quote you special prices if you use them in quantity.



Osage



An Acre of Onions

EVERY onion grower has his own notions about the business. Think this is truer in the case of onions than of any other vegetable. For this reason I like to get out in the field with the fellow who is raising them and pump all the ideas from him I can.

I stopped to talk with an onion man at Northwood, Iowa, when driving through in a car. After we had talked over seeding, cultivating, and harvesting, the conversation drifted onto seed. Of course he had no idea I was in the seed business so I could get his unprejudiced opinions.

He took me over to one side of the patch where he had run short of his regular seed and had filled in with some "store seed." Well sir, you should have seen the results. He estimated the yield from the main part would easily run 600 bushels to the acre while those from the "store seed" would hardly make 100.

I found he had planted my **Southport Red Globe**, which, as he said, makes about the best market onion one can sow. It's a medium sized, globe-shaped onion, and one of the best keepers. If you are one of those who prefer a white onion, the **Southport White Globe** is very similar except in color. I confess I can't distinguish between the taste of the two, but my wife tells me the White is the milder.

Further south they favor the Yellow varieties, especially the **Danver's Yellow Globe**. For early pickles the **White Bartletta** never makes a big onion, but forms a small tender bulb, ideal for pickling.

Five or six pounds of my seed on an acre of good rich land, well tended, will make you better returns than anything else I know of. Two acres will keep one person on the jump. Better not plant more unless you can hire some one to help you with the weeding for about a month.

I have been asked many times if "rolling" or as it

is sometimes called "barreling" was advisable. This is a method of hurrying the ripening process, by rolling a very light roller or barrel over the tops. Perhaps if this is done at exactly the right time, it is of some value, but I suggest that unless you are an experienced grower you let the onions break down of their own accord.

Keep in mind that onions when planted thickly have a tendency to crowd out slightly. This will not make them misshapen but they will run smaller than when planted thinner. For market a medium sized bulb is preferred.

One year old seed is generally very weak; older seed worthless.

An ounce will sow 100 feet of drill.

	Pkt	oz	Postpaid Prices		
			¼ lb	1 lb	5 lb
Southport Red Globe (Sometimes called Minn. Red Globe)			\$.10	\$.25	\$.75 \$2.50 \$12.00
Southport White Globe . . . . .			.15	.40	1.25 4.00 19.25
Large Red Weather-yield . . . . .			.05	.20	.65 2.00 9.50
Danver's Yellow Globe . . . . .			.05	.20	.65 1.95 9.35
White Bartletta (Pickling) . . . . .			.10	.35	1.15 3.75

ONION SETS

For first early garden onions everybody plants onion sets. If left in till ripe they also make large globe onions. Unless otherwise instructed we shall hold onion set orders till danger of freezing is past.

ONION SETS	Prepaid		8 lbs. or	
	Per lb	3 lbs	1 peck	
White Bottom	\$.35	\$.85	\$1.50	
Yellow Bottom . . . . .	.30	.75	1.35	
Red Bottom . . . . .	.30	.75	1.35	

Two Classes of Peas

NOTHING is more confusing to the average planter than the long list of peas offered in the catalogs. I am going to begin by trying to straighten them out. In the first place there are two general classes, the smooth and wrinkled. The smooth are the earliest, hardiest and on the whole the best yielders. The wrinkled are by far the best quality. After you have had some of the fat juicy wrinkled peas on the table you will lose all relish for the round ones that tasted so good when they first came on in early summer.

You can plant the smooth kinds as early as you choose, the earlier the better, for they will not mind a spell of cold, wet weather. But it's best to wait till the ground has settled and warmed up a bit before planting the wrinkled kinds.

Then there are the dwarf and the tall growing varieties. The dwarfs are more convenient to grow because they don't require staking, but the medium and tall sorts yield the most. Then too, if your soil is rich and the season cool and favorable the short kinds will take on an unusual growth. Some years our Alaskas, commonly classed as 2½ feet high, are way up above our shoulders. So that height given must not be taken too seriously.

The earliest variety of peas grown and the surest to make a crop is the Alaska-Smooth kind, 3 feet high. For first early I do not know of a better kind. Market gardeners are especially advised to plant heavily of this variety, as it is a great money maker.

In wrinkled peas plant the Nott's Excelsior. The stubby pods are chock full of good sized peas. Out of the kinds I had in my trial grounds this year I selected this as the best of all. You are sure to be pleased with its quality.

For main crop plant the Champion of England or the Telephone. Both are tall growing sorts but your work in staking will be well repaid. Most of you know about the quality of these.

Everybody uses string beans, but not one garden in a dozen has the sugar peas that are cooked pod and all, and are as wholesome and delicious as beans of the same sort. Why not try a package this season. Dwarf Gray Sugar is the proper variety. Blossoms purple, quite distinct and interesting.



Nott's Excelsior

Two pounds will plant 100 feet of drill.

		Postpaid Prices		
	Pkt	½ lb	lb	3 lb
SMOOTH, EXTRA EARLY				
Alaska.....	\$.10	\$.20	\$.30	\$.75
First and Best.....	.10	.20	.35	.90
WRINKLED EARLY DWARF				
Nott's Excelsior.....	.10	.25	.40	1.00
American Wonder.....	.10	.25	.40	1.00
Little Marvel.....	.10	.25	.40	1.10
LATE MAIN CROP				
Telephone.....	.10	.25	.40	1.00
Champion of England.....	.10	.25	.40	1.00
SUGAR PEAS				
Dwarf Gray Sugar.....	.10	.25	.40	1.10

Seeds for a Family of Four

Here's the list of vegetable seeds suggested in Farmer's Bulletin 937 as suitable for an average family of four. It is intended to include seeds necessary for successive plantings during the season. You notice that not many of the odds and ends are mentioned.

Beans	Sweet Corn—1 to 2 pt.	Parsnip—½ oz.
Bush, Lima—1 pt.	Cucumbers—1 oz.	Radish—1 oz.
Pole Lima—1 pt.	Egg Plant—1 pkt.	Salsify—1 oz.
Snap (string)—1 to 2 qt.	Kale—2 oz.	Spinach—½ lb.
Beets—4 oz.	Lettuce—½ oz.	Summer Squash—1 oz.
Early Cabbage—1 pkt.	Muskmelon—1 oz.	Tomatoes, Early—1 pkt
Late Cabbage—½ oz.	Onion Sets—4 to 6 qt.	Tomatoes, Late—¼ oz.
Carrot—1 oz.	Peas—2 to 4 qts.	Turnips—2 to 3 oz.
Cauliflower—1 pkt.	Parsley—1 pkt.	Watermelon—2 oz.
Celery—1 pkt.		

(NOTE: If it were me I would cut down on Kale, Spinach and Late Tomatoes and add some to Muskmelon s, Parsnips, Radish. And how about Squash for winter and Pumpkins.) Figure one pint as a pound.

Do Pumpkins Mix?

SCIENTISTS tell us that contrary to the usual notion, pumpkins and squashes won't mix or cross when planted near each other. For years I would not plant pumpkins because I was afraid they would spoil our favorite Hubbard Squashes. Now I have thrown off the superstition and find that I can have them both in the same row, and the squashes at least look and taste as good as ever.

The **Pie Pumpkin**, the small round red kind, fine grained and a splendid keeper, is the one to plant in the garden.

For stock plant the **Large Cheese** or **Kentucky Field**. See page 36.

There is an interesting array of varieties of pumpkins and mammoth squashes of all sorts of colors,

shapes and sizes, some of which you have perhaps never seen, that we offer in **Mixed Pumpkins**. Try a package in your corn field and you are likely to have some surprises.

One pound will plant 200 to 300 hills; one ounce 20 hills; 4 pounds, 1 acre.

FIELD	Pkt	oz	Postpaid Prices	
			$\frac{1}{4}$ lb	lb
Large Cheese.....	\$.05	\$.10	\$.35	\$1.00
Connecticut Field.....	.05	.15	.40	1.25
Kentucky Field.....	.05	.10	.30	.85
Mixed .....	.05	.10	.30	.80
PIE				
Early Sugar.....	.05	.15	.40	1.25

(See also page 36)

Use More Parsnips

We eat too much concentrated food; instead we ought to fill up on the easily digested fibrous, watery vegetables.

Parsnips stand about at the head of the list of palatable nourishing roots. If you do not like them it must be the fault of your cook. In our family we have them regularly and use them by the bushel.

There is not so much difference in varieties, but lots of difference in seed. Only fresh last year's seed is worth planting. You will surely get that from me. But you must sow it early to get the best results.

	Pkt	oz	$\frac{1}{4}$ lb	lb
Improved Hollow Crown.....	\$.05	\$.10	\$.30	\$.90

Plant Spinach Early

I suppose that it would not be quite proper to class Spinach with Asparagus. It is of course by no means the equal. But let a real good cook prepare spinach and while eating it you will think that it's a close second. At any rate it's the most easily grown and most popular of all the greens. One of the earliest of plants, the severest frosts seemingly having no effect on its foliage.

It can therefore be sown the very first thing in the spring or even in the fall just before winter sets in. The **Victoria** is the standard variety. If you are fond of Spinach be sure to sow some of the New

Zealand, which stands the heat well and can be cut all summer. Its curious thickened leaves are so interesting that it's almost worth growing just as a foliage plant.

One ounce of seed will sow about 50 feet of drill.

	Pkt	oz	$\frac{1}{4}$ lb	lb
Victoria.....	\$.05	\$.10	\$.25	\$.65
Bloomsdale.....	.05	.10	.25	.75
New Zealand.....	.05	.15	.45	1.25

Peppers---Hot or Sweet

Probably the best variety now on the market to grow as sweet peppers is the **Chinese Giant**. I guess it's the biggest of all peppers and mighty good flavored. The Rural New Yorker says editorially, "Chinese Giant pepper has given us great satisfaction the past summer. It is mild and well flavored and appears to be one of the few sweet peppers that do not shock the unwary customer by suddenly developing a taste like a torchlight procession."

This belongs to the class of peppers called sweet or Mango. The **Ruby King** is a little smaller but sets more fruit.

Red Chile is the hottest. Used mainly for making chili or pepper sauce.

Housewives are learning to use such peppers freely in putting up relishes for winter. They are wholesome, tasty and add much to their appearance.

One ounce will produce about 1500 plants.

Postpaid Prices			
SWEET OR MANGO	Pkt	$\frac{1}{2}$ oz	oz
Chinese Giant.....	\$.15	\$.45	\$.85
Ruby King.....	.10	.35	.65
HOT PEPPERS			
Red Chile.....	.10	.30	.50



Radishes

YOU would be surprised to see how much radish seed we sell. It's something that everybody plants and everybody likes, and yet not half as much is sown as should be, for there's no reason why we should not have them in plenty all through the summer instead of only from one little patch early in the season. With rich ground and two or three weeks of cool, moist weather a crop of sweet, brittle radishes may be had at any time.

This year we had them in November.

Remember that a light frost will not hurt Radish. If you have a hot-bed be sure to start some in the fall. The roots grown at this time, are tender so keep some radish seed handy and sow a little every week or two till September 1st, and whenever the weather is favorable you will be able to pull a nice bunch for the table.

Radish planted with onions make a splendid marker for the rows until the onions get up where you can see them. Same for Parsnips, Salsify and Spinach. If your ground is very clean you can seed them broadcast among the later maturing crops.

The variety of early radish you plant doesn't make nearly as much difference as the variety of the seed itself.

More Early Scarlet Globe radishes are planted in this section than all other early red sorts put together. It's the standard early. If you want a big long radish, plant the Long Scarlet.

The Icicle, whose shape is described by its name, is a beautiful white variety breaking off as crisp as if made of ice. This variety is especially desirable for planting during hot weather as it is less inclined to get pithy.

French Breakfast is one of the earliest sorts. The white tip makes it especially attractive. However it is inclined to get pithy very quickly.

Winter Radishes

These radishes are the ones you seed in the late summer or fall, at turnip seeding time and have for fall and winter use. They are much larger growing than the common sorts, and not so tender. But they are welcome on the table when the other radishes are not to be had. The Chinese Rose Winter is my choice.

During the season in my own garden I seed about half to Early Scarlet Globe, with a good sized patch of Icicle for the hot summer months and then generally a packet each so as to have a variety on the table.

If you are planning to grow for market you must have your Radish very early. Soon the market becomes flooded and unless you have a trade established you will find it hard to dispose of them at any price.

The big bulk of the Radish seed sold in this country comes from California. Here the seed is easy to harvest and dry because of ideal weather conditions. But personally I prefer the seed that is grown in the east. Seems to me that it has more vigor than the western This is one of the few seeds which indicate their vitality by their size. In general a large radish seed has more vitality than a smaller one. Of course the different varieties vary greatly.

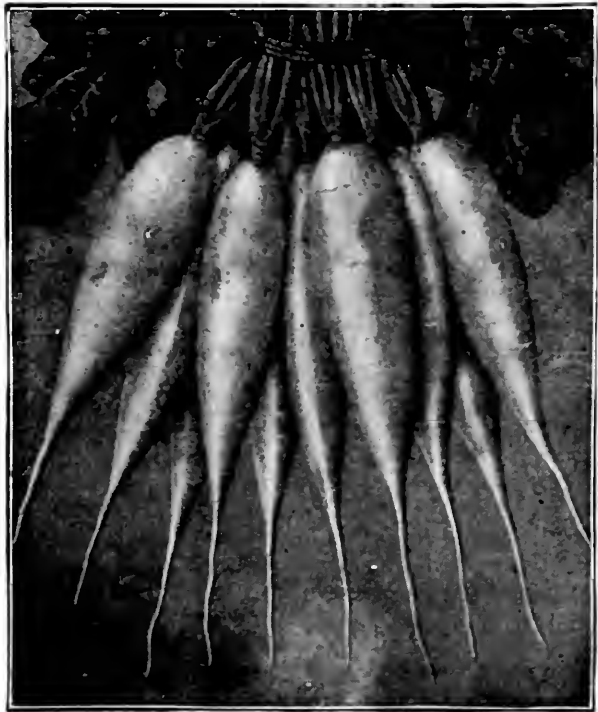
My own Radish seed crop was pretty much of a failure this year. The plant lice got at it and before we had time to get at it with "Black Leaf 40" they had almost made away with the leaves. But I have located a splendid lot of seed, eastern grown, which will suit you fine.



French Breakfast

One ounce will sow 100 feet of drill.

	Pkt	Postpaid Prices			
		oz	¼ lb	lb	
ROUND RED					
Scarlet Globe, Select	\$.05	\$.15	\$.45	\$ 1.50	
Rapid Red	.05	.15	.45	1.50	
WHITE TIPPED					
French Breakfast	.05	.15	.40	1.25	
Scarlet Turnip, W.Tip.	.05	.10	.30	1.00	
WHITE					
Icicle	.05	.10	.30	1.00	
LONG RED					
Long Scarlet, Short top	.05	.10	.30	1.00	
Crimson Giant	.05	.15	.45	1.50	
WINTER					
Black Spanish	.05	.15	.40	1.25	
Chinese Rose Winter	.05	.15	.40	1.25	



Icicle

To Keep Squash for Winter

A RICH, warm, loose soil and plenty of room and sunshine is all that is required to grow good squash. Plant in hills twelve feet apart each way, using about a dozen seeds in each hill. Then, after the bugs are through with them, thin to three plants.

Three plants will be ample, perhaps even making the vines a little too crowded unless your ground is very rich.

Pumpkins do well in a corn field, but Squash need all the sunshine in order to store up a full degree of sweetness and richness in their fruit.

The Hubbard has been a general favorite for the past fifty years and is one of the things which fully deserve their popularity. This is the big, warty, dark green squash that keeps all winter. There are a great many new strains of this variety each supposed to have its particular advantages. But for main crop the genuine Hubbard still holds first place with me.

The market for Hubbard squash is generally good. Here in Albert Lea they want a medium small size. and of course it must be well ripened. Like as not the market is as good where you live. Talk with some of your merchants and ask them what they could pay you for squash next fall. And find out too what sort of a squash there is the best market for. In the average town there is a greater demand than supply.

Practically all the late varieties can be used before the rine hardens. Many prefer an immature Hubbard to any of the summer varieties.

When picking squash for winter use it is best to leave part of the stem attached. Be very careful to avoid bruising.

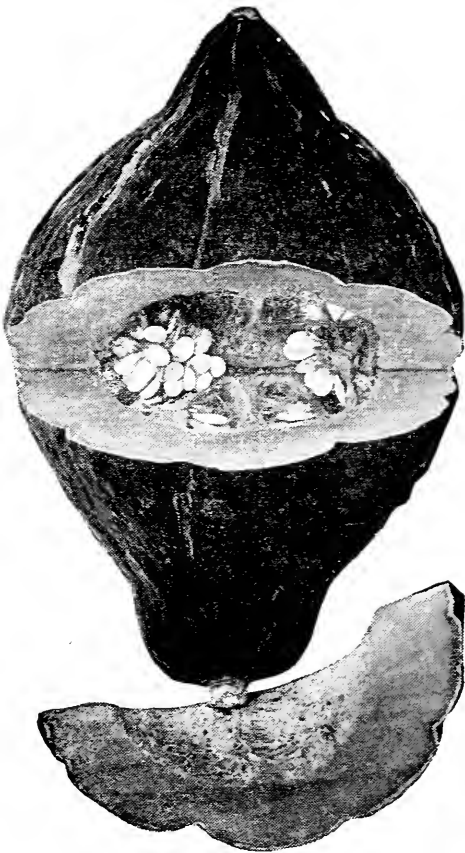
Squashes and Pumpkins may be kept for winter use in a dry, well ventilated cellar, but a dry above ground, frost proof place is best. Put them in rows on shelves so that they are not in contact with each other. If the temperature is maintained at 40 Far., the Hubbard or Delicious will keep until late into the winter.

The Delicious is a considerably smaller squash, but I am inclined to think it the best flavored of the whole list. It holds a place next to Hubbard in my own garden.

For summer use plant the **Early White Bush Scallop** or the **Bush Summer Crookneck**, depending on your taste. The summer varieties are generally cooked when so small and tender that the thumb nail can pierce the rine easily. Very palatable when cut in slices and fried like egg plant.

If you want something to exhibit at the county fair, or to feed stock, try a package of **Mammoth** or **Hundredweight**. It is coarse and large, sometimes weighing 100 lbs or more.

Squashes can be used to good advantage planted with cucumbers, melons and such like, to furnish feed for the "striped bug" until these other plants get a good start. Generally either in alternate hills or alternate rows. This is more fully explained on Page 40.



Hubbard Squash



Summer Crookneck

WINTER	Postpaid Prices			
	Pkt	oz	¼ lb	lb
Genuine Hubbard.....	\$.10	\$.20	\$.55	\$1.75
Mammoth.....	.10	.20	.55	1.75]
Golden Hubbard.....	.05	.15	.50	1.50
Delicious.....	.10	.25	.65	2.25
SUMMER				
Early White Bush Scallop.....	.05	.15	.45	1.35
Bush Summer Crookneck.....	.05	.15	.45	1.35



Staking Up Tomatoes

D ID you ever try tying tomatoes to stakes instead of letting them lie on the ground? I trained about twenty-five plants, some of which you see in the picture above this way and learned two things. First, that it requires a good stout stake. Nothing less than 1½ inches through will do, and second, that the fruit in wet seasons will be a great deal more perfect, especially at the close of the season.

Last year I told about picking two bushels of ripe fruit and full grown green ones, spread them out on a chamber floor where they colored up beautifully and kept so well that we had nice fresh Tomatoes for Thanksgiving.

George Seager from St. James comes back with: "I notice you say you had nice fresh sliced Tomatoes this year at Thanksgiving time. We had nice fresh sliced Tomatoes on our Christmas dinner table. Next."

Chalk's Jewel is the kind that performed this way. It's a medium sized bright red, one of the most regular, solid and apple-like of the whole list..

There are dozens of new varieties which are very similar or identical to Chalk's Early Jewel. I have tried to discover some merit in these over the Chalk's but only one seems to be any great improvement, this is the John Baer.

Here is a tomato after my own heart, as early as the Earliana and as long seasoned as the Chalk's. I find that most of the canning factories around here are using it and are very well pleased with it.

For the home garden it fills the bill in great shape. A. E. Wilcox of Bricelyn writes: "The tomato plants I ordered from you last spring are bearing heavily. Got the neighbors skinned four ways. As so many are asking the variety, wonder if you will jot it down on the enclosed card." The answer was John Baer.

For first early, almost everybody puts out a few Earliana.

Where an extra large, showy one is wanted the Ponderosa will fill the bill. This is very solid and meaty with few seeds and I am inclined to think has a little the best flavor of any when sliced raw. But it's pretty late and must have a good early start in the hot bed.

Of the small tomatoes for pickling or preserving there is nothing better than the Yellow Pear.

In most cases the tomato seed is sown indoors, and transplanted one or two times before setting into the field, March 15 is about the right time for starting them. Boxes about 2½ inches deep and of any convenient size, called by gardeners "flats" may be used for sowing the seed. The rows about two inches apart, and just deep enough to cover the seed. Keep in a warm place in the house or hot-bed. Do not allow the plants to become too spindling before transplanting.

The young plants are transplanted when about two inches high, into flats with a distance of about two inches between plants. Later reset into other boxes or 4 inch flower pots. A few weeks before setting in the field they should be exposed gradually to outside conditions in order to harden them.

Cut worms, and stalk borer are probably the two most serious tomato enemies. I have made some suggestions about controlling them on Page 40.

	Pkt	oz	¼ lb
John Baer.....	\$.10	\$.40	\$1.25
Chalk's Early Jewel.....	.10	.30	.85
Earliana.....	.10	.35	1.00
June Pink.....	.10	.40	1.25
Ponderosa.....	.15	.50	1.65
Matchless.....	.10	.25	.75
Dwarf Champion.....	.10	.40	1.25
Golden Queen.....	.10	.35	1.00
Yellow Pear.....	.15	.45	1.50

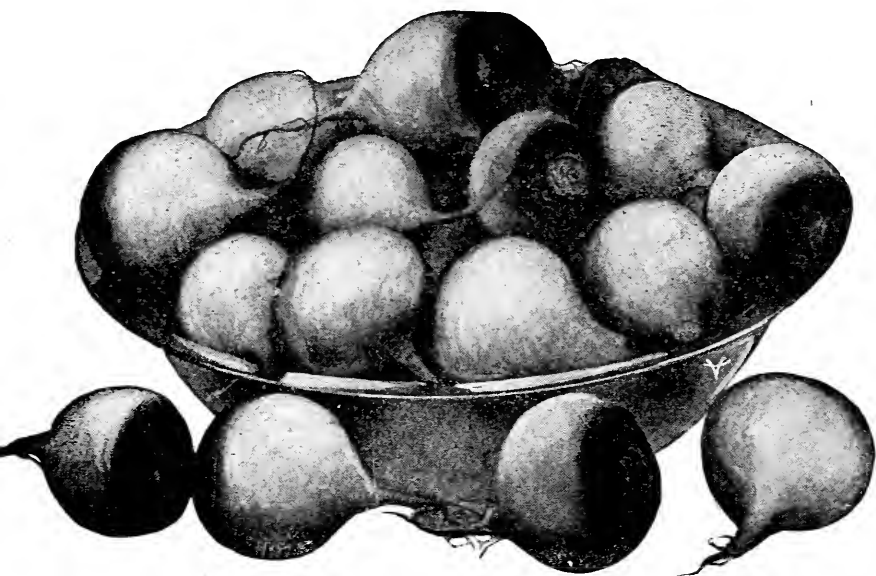
GROUND CHERRY

The Ground Cherry is closely related to the tomato and is getting to be more popular every year. Seed should be started early in a warm place in the house or in the hot-bed. If the soil is cold it may be weeks in germinating. The plants are so small when ready to set out that everyone is tempted to plant the Ground Cherry too close. It really needs about as much room as the tomato, 4 feet each way.

One ounce will produce about 2,000 plants.

	Pkt	oz
Ground Cherry.....	.10	.45

Turnips, a Late Summer Crop



Purple Top White Globe

Vegetable Oyster

This is a mate for the parsnip, but not nearly as much grown. If cut up and made into a soup and flavored with a few strips of cold fish it has a distinct oyster flavor. In our family we have it every week for Sunday dinner. Have raised it in our tribe ever since I can remember. Years ago we had only the old stringy variety. Now the Sandwich Island, a more fleshy smooth rooted kind, has altogether taken its place.

One ounce of seed will sow 50 feet of drill.

	Pkt	oz	¼ lb	lb
Sandwich Island.....	\$.05	\$.25	\$.75	2.50

Rhubarb

The first sauce of the season generally comes from our bed of Rhubarb—or Pie Plant as we used to call it. By planting large, well matured roots very early, in soil made rich with well rotted manure it is possible to cut some stalks the same season set out, and the second year you may hope for an abundance.

The stalks are large, quite red in color, very tender and mild in flavor.

Never pays to bother with the seed unless you already have a bed and are in no particular hurry for results.

ROOTS	3	6	12	25	Not Prepaid
Good Large Ones.....	\$1.00	\$1.75	\$3.25	\$6.00	
Seed Pkt., 10c; Oz., 35c; ¼ lb., \$1.00, prepaid.					

Parsley

An extremely hardy plant, used for seasoning and garnishing. A sprig of its beautifully cut and curled leaves will brighten up a dinner table marvelously. Nothing easier to grow.

	Pkt	oz	¼ lb
Moss Curled.....	\$.05	\$.10	\$.30

IN EUROPE, Turnips form one of the staple crops and are considered almost indispensable in their agriculture. Here they are greatly neglected. The cost of Turnip seed per acre is less than for almost any other crop. By scattering thinly in July or early August, just before a shower, a valuable second crop can be grown after winter Rye, early Barley or Potatoes are harvested, or in the corn field after the last cultivation. The **Purple Top Strap Leaf** is the proper variety for seeding at this time. For summer use seed the **Extra Early White Milan**.

The **Rutabaga** is a more nutritious vegetable which needs to be sown about a month earlier. Say from the middle of June to the middle of July. I always try to get a few of these for family use on a little strip of new land where they will grow much sweeter than in an old field. On the farm Rutabagas and Turnips can be stored very successfully in a pile of old leaves. We have sometimes kept them in the leaves with which we banked up the house. A hard frost will not hurt them but alternate freezing and thawing will be injurious. Best not store them in the basement as they give off odors that penetrate the house.

One ounce will sow 100 feet of drill; one pound will sow an acre broadcast.

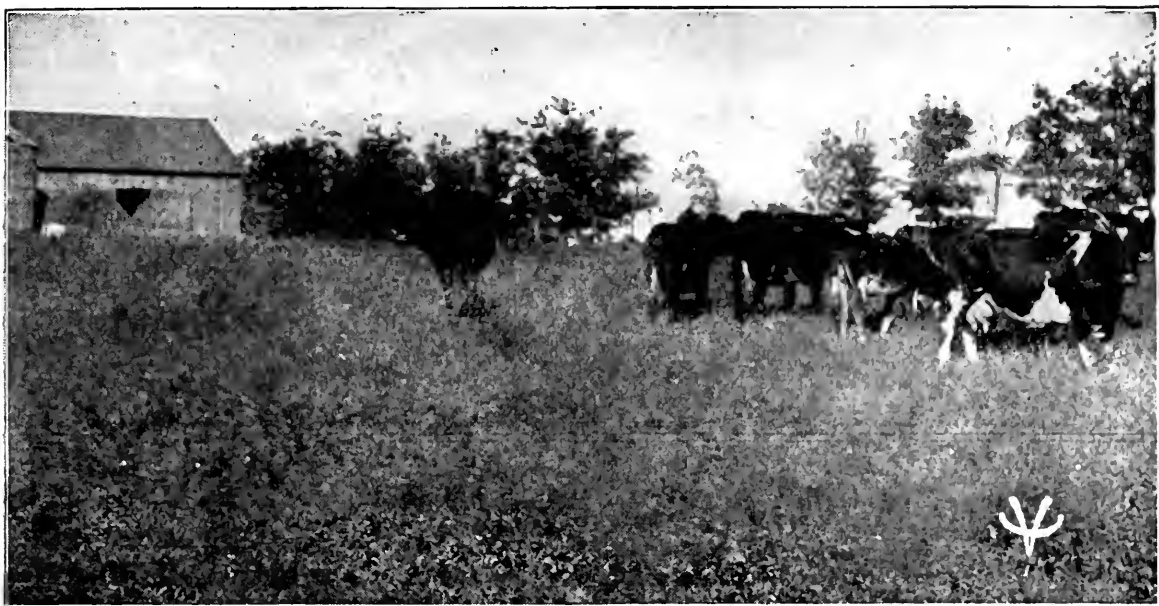
TURNIPS	Pkt	oz	¼ lb	lb	5 lb
Purple Top Strap Leaved....	\$.05	\$.10	\$.35	\$1.00	\$4.50
White Egg.....	.05	.10	.40	1.15	5.25
Purple Top White Globe...	.05	.10	.35	1.00	4.50
Extra Early White Milan...	.10	.20	.65	2.00	9.25

RUTABAGAS

Improved Purple Top.....	.05	.10	.35	1.00	4.50
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Herbs

	Pkt	oz
Caraway. Great for flavoring cookies and cakes.....	\$.05	\$.10
Dill. Leaves are used for pickles also soups, etc.....	.05	.15
Marjoram. (Sweet) Both leaves and shoots used for seasoning.....	.05	.10
Thyme. A tea made from the leaves said to be a remedy for headaches....	.10	.30
Sage. Puts the finishing touch on stuffings, etc.....	.05	.15



Field Seeds for the Farm

TO MAKE it more convenient for you to select your grass seeds this year, I have listed them according to their special uses. While each crop is good in its place it may be worthless for some other purpose, or under other conditions. For example, you are perhaps going to need some extra roughage this summer. There are several crops which you might plant. Which of these will give you just the sort of feed you need, do well on your soil,—and mature a crop at such time as you can handle it?

Quick Hay Crops

Field Peas and Oats WHEN PINCHED FOR a quick hay crop, oats and Canadian Field Peas will give about the quickest relief. On first class land you should be able to cut 85 days after seeding, something like two tons of hay per acre, equal to red clover in feed value. Splendid for plowing under as green manure too.

It seems to be generally agreed that a heavy or clay soil is best suited to peas. In order to help out the natural drainage on such land I consider it a good plan to make a dead-furrow every 35 to 40 feet.

Because drilling gets the seed into the ground in better shape, than broadcasting, it means less waste and a more even stand.

Cutting Time Comes when the peas are well formed in the pod but not hard. Haying operations are much like red clover. If you wish you may let the crop ripen and thresh, even then the straw will be equal in value to the best marsh hay.

Experiments at the Ashland station, Wisconsin, indicate that any of the common varieties yield about equally as hay. Some medium early oats, like Russian Green, are best suited to seed with peas.

Unless peas have been grown on the land before I would certainly order some Innoculator with which to treat the seed. Or if you wish use 300 pounds of soil from the year garden pea patch to each acre of land you intend to plant to field peas.

Millet BUT VERY OFTEN we have patches which cannot be seeded until later in the spring when it would be useless to try the Field Peas which are strictly a cool weather crop. Then it is that we come to the Millets, Sudan Grass, Soy Beans and other warm weather crops.

The old standby has been Millet. Most of us have grown it at some time or other. Mighty handy for filling in the odd and end places, where the clover winter killed, or maybe where the corn failed to make a stand. The Liberty (or German) and Hungarian will outyield the Common two to one. Millet is one seed which should be grown in the south, the northern seed is nearly always weak in germination and has nothing like the vigor which we find in the well matured southern seed. So you will notice that all the seed I handle is grown in the south.

Sudan Grass IN MANY WAYS Sudan may be compared to Millet. Both are of southern origin and accustomed to warm weather, live only the one year, and do best on warm rich lands. Before I commence to brag up the Sudan I had better tell you about the one fault I have to find with it. The seed generally runs weak in germination and also in vitality, this means that it will not stand much hardship until well started. Just one year 1917 I failed to get a stand, since then I have made sure to plant shallow and not too early.

To my mind it has millet bested in every other way. A season which is at all favorable will give you two cuttings of Sudan—only one of millet. While the hay is of about equal feed value, it is much more palatable to all live stock and safer to feed than millet to horses. Even if badly weathered after cutting stock are greedy for it because of its sweet sorghum flavor.

More than this, it furnishes one of the best quick pastures for hogs, or other animals. (See Hog-Pastures)

Cut the First Crop of Sudan when it is around three feet in height. The plants will then branch

Quick Hay Crops (Continued)

out even more, and the second crop will be of fine quality. If you wish however, you may let it grow all summer and then make one big cutting, you will have some bother in handling the hay but it will be just as good for feeding in spite of the coarser stems. Not uncommon for it to grow up to 12 feet on extra good land.

The Seed of Sudan is about the same size as

millet but because of its stooling habit, only about 20 pounds are required to the acre when broadcasted, or twelve to fifteen when drilled. R. A. Oakley of the U. S. Dept. of Agriculture reports that 20 pounds of Sudan, seeded with 60 pounds of Soy Beans made "an excellent combination for hay producing a crop of high quality and heavy yield." Altho I have never given this a trial I feel sure that it would work out splendidly on light and sandy soils.

Special Information

CROP	lbs. per bu.	May be inoculated by soils from	Does it do well on sour land?	Feed value compared with bran at \$32.00 per ton	Feeding Analysis per 100 lbs. of feed			Fertilizer per 1000 lbs. as green manure		
					Protein lb.	Carbo. lb.	Fat lb.	Nitrg'n lb.	Phos. acid lb.	Potash lb.
Canadian Field Peas and Oats	60 32	Garden Peas or Vetches	No	\$28.40	8	37	2	18	7	16
Millet	50	(Not Needed)	Fairly well	\$29.30	5	50	2	13	4	14
Sudan	40	(Not Needed)	Fairly well	(not determined yet)	3	45	1			

FOR PRICES SEE "BLUE LIST"

Fall Pastures

Forest Henry says "Pastures often start very slowly in the spring simply because they were eaten too closely the season before. Where a pasture is eaten very closely the hot weather of summer often destroys the grass roots and if eaten off closely late in the season so there is nothing to hold the snow of winter it always starts slowly. It is poor economy at any season of the year to graze a pasture clear to the ground." (Minn. Farm. Inst. Annual No. 31)

Mammoth and Red Clover

But cattle must eat so we must make some provision for late summer and fall feed. One good method is to seed some grass seed with all the small grain that we can arrange to pasture. Red Clover, Mammoth Clover, Sweet Clover, Alfalfa and sometimes Timothy are used. All are worth while I believe except the timothy.

Mammoth Clover will make somewhat more forage than the Medium Red but is not desirable to leave for hay the next year. Alfalfa seems to be about equal to Mammoth Clover, if the ground is inoculated.

Sweet Clover

But the Great New fall pasture crop is White Blossom Sweet Clover. Most of us have held off planting it because some neighbor has scared us into believing that it might become a weed. I have never seen anyone who claimed to have actually seen it growing as a weed in a cultivated field, but hundreds of them have been told by someone else that it is a dangerous weed. Our Minnesota Experiment station is very conservative, I think they were the last of the stations in this section to take Sweet Clover out of the "weed list" and give it their recommendation. The United States Dept. has urged the use of it for a long time.

W. R. Hechler of the Iowa Experiment station says "Sweet Clover is not a weed, but a valuable hay, pasture and seed plant. It will grow on poorer, drier, or wetter soils than the red clover or alfalfa. Sweet clover makes more growth than any of the other clovers during the first season and hence is extremely valuable to plow under for soil improvement. When spring sown with small grain a fair crop of hay can frequently be harvested late the first fall, after the removal of the nurse crop." (Ia. Cir. 39)

Don't expect too much of Sweet Clover the first year. It will likely do some better than Red Clover—but once get the land thoroughly inoculated and it will give some wonderful crops. Give it a trial.

Eight pounds of seed, more or less, to the acre will pay best returns.

Generally the seed prices on a new crop are mighty high. Here's an exception. Sweet Clover is about the cheapest seed you can use. The cheapest seed, the heaviest crop and the most valuable per pound (equal to alfalfa) of any of the grasses which can be seeded with small grain for fall pasture.

Rape

I have seen some very good results from a seeding of Rape in corn at the time of last cultivation. I'll confess that I have never had much success when I tried it myself. Four or five pounds of Rape will do the business.

Special Information
Feeding and Fertilizer Values as Green Roughage

CROP	lb. per bu.	May be innoculated by soils from	Does it do well on sour land?	Seeding for Fall Pasture Pounds	Feeding analy- sis per 100 lbs. of feed			Fertilizer per 1000 lbs. as green manure		
					Protein	Carbo.	Fat	Ntrgn.	Phos. Acid	Ptsh.
Mam- moth Clover	60	Red, Alsike or Mammoth	fair	7	3	12	.3	6		
Red Clover	60	Red, Alsike or Mammoth	fair	8	3	13	.6	7	1	6
Alsike Clover	60	Red, Alsike or Mammoth	fair—better than Med. Red	4	3	12	.4	7	2	9
Sweet Clover	60	Alfalfa or Sweet Clover	better than Alfalfa	8	3	10	.3	7	1	5
Rape	60	(Not Needed)	fair	5	3	10	.3	5	1	4

FOR PRICES SEE "BLUE LIST"

Second Season Hay and Pasture Crops

You will find me mighty enthusiastic about Alfalfa and Sweet Clover. Both of them are heavier yielders and richer in feed values than Medium Red Clover. But right at the outset I want it understood that on the average sized farm having good corn soils, I would advise planting Red Clover in at least nine cases out of ten.

Alsike and Red Clover When I Say Red Clover I mean as a base of the grass. In practice it makes a better and a surer crop when mixed with Timothy and Alsike to suit conditions. The hay grows thicker and finer, is less liable to lodge, is more easily cured and feeds out better when in a mixture. Variety in roughage means much to live stock both in hay and pasture.

Here's the way I would mix them according to the conditions:

- On well drained uplands, where soil is not sour:
 - 8 pounds (4 qt.) Medium Red Clover.
 - 4 pounds (3 qt.) Timothy.
 - 1 pound (½ qt.) Alfalfa (or Sweet Clover) for inoculation.
- On rolling lands:
 - 5 pounds (2½ qt.) M. R. Clover.
 - 5 pounds (4 qt.) Timothy.
 - 2 pounds (1 qt.) Alsike.
- On low lands where grain crops can be grown.
 - 5 pounds (2½ qt.) Alsike.
 - 5 pounds (4 qt.) Timothy.

You will notice that I do not recommend any mixtures with Sweet Clover or Alfalfa except in the first case and then only for inoculation of the soil preparing for future crops of these if desired. The reason that these crops do not mix well is because they are not ready for cutting with the other grasses.

So much for the average farm. Now for the fellow who has a smaller place, a little more time to devote to his crops and must raise more to the acre. And for the odd and end places on the larger farms—patches of a few acres.

Sweet Clover The reason that I recommend Sweet Clover in small patches to start with, is because it must be cut at just such and such a time, otherwise the stems become woody and bitter. Not only that but if left until the lower buds have dried up, the plants may be killed unless cut with an extra high stubble.

In the Minnesota Farmer's Institute Annual No. 30, Mr. Andrew Boss has given a splendid explanation of the special values of Sweet Clover, here's what he says:

"For many years Sweet Clover was listed as a weed but its value as a forage crop is now accepted without question. It is coming into favor because of its hardiness, its ability to improve poor soils, its high feeding value and yield.

Its chief advantage over Alfalfa is the wide range of soils on which it will grow and its hardiness. It will grow on practically any soil from the heaviest clay to almost pure sand. It is not particular either as to moisture requirements. It will grow on land too wet for red clover and yet is almost as drought resistant as Alfalfa.

Second Season Hay and Pasture Crops (Continued)



The Branching Root System of Grimm Alfalfa
Sweet Clover (Continued)

Sweet Clover is usually sown with grains as a nurse crop and so requires no special preparation of the soil. A fair stand may be obtained by scattering the seed on sod and harrowing it in. A crop of hay or considerable pasturage may be had the first year and a crop of seed or two crops of hay may be obtained the second year.

"Sweet Clover is a wonderful soil improver, breaking up the hardpan with its long fleshy roots and adding large amounts of humus to light soil by the rapid decay of the root and its ability to gather nitrogen from the air."

As a Pasture Crop Mr. Boss says of Sweet Clover, "The best time to begin its use is early in the spring. As Sweet Clover starts two weeks earlier than alfalfa and as the new shoots are less bitter than the old, all classes of live stock will eat it readily at that time. After becoming accustomed to it they will often leave other good feed for the Sweet Clover. Because of the cumarin which causes the bitter taste, some authorities believe that cattle are less likely to bloat on sweet clover than any other legume. It is especially good as pasture for hogs, cattle, and sheep. One acre of good sweet clover pasture should support one cow, three or four ewes and their lambs or forty shotes."

Grimm Alfalfa

I suppose I was the first farmer in our part of the country to sow the genuine Grimm Alfalfa. It was my luck to get acquainted with some of the original fields in its earlier history and talk with those who had had experience with it before it became famous. I could see at once that it was undoubtedly hardy and that several crops could be cut in one season.

I bought a peck of seed and sowed it on one of our poorest side hills. For some reason or other either the soil or the seed were infested with the inoculation or necessary bugs and that little field of alfalfa was a success from the start, giving us three crops of hay every year and such feed as I had never seen before.

Immediately I laid plans for covering my farm with alfalfa and getting rich on seed. But as is usually the case when handling any new crop I had a great deal to learn. Year after year I looked in vain for seed. I think it was four years before we had a dry season and a really first class crop of seed. I did not know that Alfalfa sets seed only in dry climates and cannot be depended upon where we have as much moisture as we do in Minnesota.

I prepared a large field for sowing this precious crop of seed in woeful ignorance of the all necessary bugs. It came up beautifully and in about a month I had the most promising stand that could be desired, but for some mysterious reason it began to decline and grow less the latter part of the season and by the next spring only a few scattering plants could be found. Soon after this I was obliged to plow up the original patch which required a four-horse team with the sharpest kind of a plow.

But when I grew my first crop, I found that my barren hillside had been transformed to the richest soil on my farm.

I had learned three things about Alfalfa:

First: That you are not likely to succeed without inoculation.

Second: That it's not practical to grow seed in Minnesota.

Third: That Alfalfa enriches the soil beyond anything else.

Fifteen years after my former experience I spent a week looking over Alfalfa in North Dakota, and found that I was right in the hardness of the Grimm, which was making good everywhere. Its branching roots and low crown give a distinct advantage over any other variety. It's certainly the kind to plant in Minnesota.

I sowed several good sized fields last spring, using the Commercial Inoculation such as I offer herewith, applied directly to the seed, and found it much easier than we had supposed. We sowed early with a medium light seeding of Barley, and had such a tremendous growth of Grimm that we had to cut our Barley sixteen inches high, in order to avoid getting too much green stuff into the bundles of Barley. It looked like a two year's growth.

Of course you can sow Alfalfa at almost any time during the season up to the first of September, but my success with early seeding in connection with Barley makes me advise that wherever convenient.

The Grimm seed is always expensive. The non-irrigated Alfalfa of Dakota and eastern Montana are much cheaper, but I believe the Grimm is more than worth the difference.

The South Dakota station has introduced a very good variety known as the Cossack but my experience with it has not shown it to be in any way better than the Grimm, because of this, and also because the price of the Cossack is almost prohibitive, I am not cataloging it.

Most every farm has some small patches which are a nuisance to plow and harvest, maybe on a steep hill-side, or perhaps in an odd shape so you have too much waste around the edge. These are just the places for Grimm Alfalfa—why not seed it down permanently this spring.

Inneculation Explained

We talk a lot about Alfalfa, Clovers and such crops being soil improvers. Fact is they are only responsible in a round about way. The crop that does the real business, is a plant so small that it cannot be seen by the naked eye and which grows under the ground, on the roots of the crop we give the credit. The "seed" of these tiny plants will live over in the soil for many years, so that only a start is necessary.

However there are several varieties. One for example grows only on the roots of Sweet Clover or Alfalfa; another depends on Red Clover, Alsike or Mammoth.

When these "bacteria" as they are called come in contact with the fine roots, or root-hairs of their particular mother plant, they enter and make the root cover their home. Here they grow and multiply, soon pushing out and swelling the covering of the roots to form a bump or "nodule."

The "bacteria" plant and the mother plant now work in partnership. The bacteria gets food from the plant-juice, and a home in the nodule. They repay the mother plant by giving it "nitrogen" combined so that it can use it as food. They obtain this nitrogen from the air, a thing which the plant is unable to do. About the time the mother-plant begins to form seed, the nodules cease to grow, lose their plump appearance, begin to shrink, and eventually decay; and the bacteria are returned again to the soil. Here they remain for a considerable time ready to enter another mother-plant and repeat their work.

Yes sir, grow Alfalfa on land where the "seeds" of its particular fellow-worker are not present, and you have one of the worst soil-robbers imaginable; or scatter the "seeds" of its little co-workers alone and they will lay in the ground inactive. But once give the two a chance to work together and you have the greatest soil improver that I know anything about.

That's inneculation in a nut-shell. Now then, if you are seeding Alfalfa, Sweet Clover, Soy Beans, Field Peas or any of the Clovers, on land which has never been cropped before with that sort of a mother-plant, be sure that you get some of its "fellow-worker" seeded at the same time.

You can scatter 300 pounds of soil from another field which has the right sort of bacteria, or much the simpler way is to order some of the "INNOCULATOR" from me to put it in the ground with the crop. It is easy to apply. The directions are on each can. They are simple and short. It sticks well to the seed. It is simple, labor and time saving.

You can order Inneculator as follows:

- These cultures are put up in 1/2, 1, 2, 5, 10 acre sizes
- Alfalfa or Sweet Clover.....Culture A
- Clovers—Such as Red, Alsike, Crimson, Whi
Yellow, etc.....Culture B
- Garden and Field Peas or all Vetches...Culture C
- Garden and Field Beans.....Culture D



The Nodules on a Root of Sweet Clover

- Soy Beans.....Special Soy Bean Culture
- Cow Peas.....Special Cow Pea Culture
- Sweet Peas.....Special Sweet Pea Culture

Cultures for less extensively used legumes furnished on application.

Prices

Garden Size (For Peas, Beans and Sweet Peas
(only one size) 35c Postpaid

(Shipping weight 4 oz.)

- 1/2 acre size (Shipping weight 4 oz.).....\$.50
- 1 acre size (Shipping weight 8 oz.)..... 1.00
- 2 acre size (Shipping weight 1 lb..... 1.80
- 5 acre size (Shipping weight 2 1/2 lbs.)..... 4.00
- 10 acre size (shipping weight 5 lbs.)..... 7.50

Postage or express extra

Permanent Pastures and Meadows

GRASSES thrive best during cool weather and are therefore usually sown during early fall or spring. Most legumes give best results when seeded in the spring. All the clovers can be seeded satisfactorily in the summer and under favorable growing conditions, Alfalfa and Sweet Clover may be put in with reasonable safety as late as September 1st. Clovers seeded in the fall do not make enough growth before cold weather to enable them to withstand the average winter.

Thick seedings of grass and legume seed are surer of producing good stands than are thin seedings. Weeds will easily choke out light seedings during the first season but are less likely to injure heavy stands. It pays to use plenty of seed.

There is more danger of seeding too deeply than too shallow. The object is to sow deep enough to have moisture for germination. But not so deeply that the young plants cannot reach the surface. A covering of 1/8 to 1/2 inch is sufficient for small forage seed.

Alfalfa Where Alfalfa is successfully grown it excels all other hay and pasture crops in yield per acre, in its ability to withstand drought and to build up the soil fertility, and in its weed destroying power. Canada thistles, morning glories and practically all common weeds are eradicated by a good growth of Alfalfa,

Alfalfa can be successfully grown where soil conditions are right, or are made right for it. It is a particular crop but it requires nothing in the way of soil

treatment other than what is necessary to produce the most abundant yields of corn or other crops.

For permanent pastures or hay lands **Grimm Alfalfa** is the variety best adapted to our climate. The common varieties cannot be depended upon to winter here, while the Grimm is a Minnesota product and especially hardy. It is generally seeded at the rate of 10 to 12 pounds to the acre for permanent seedings.

Aside from Alfalfa, there is hardly another crop which I would recommend seeding alone for permanent pastures or meadows. There are several mixtures which are suited to different soil conditions and uses, here they are:

- 1. For Meadows on well drained land: red clover three pounds, alsike three pounds, timothy eight pounds, red top two to four pounds.
- 2. For pastures on well drained lands: red clover three pounds, alsike three pounds, white clover one pound, timothy three pounds, Kentucky bluegrass three pounds.
- 3. For Meadows and pastures on poorly drained land: alsike four to five pounds, red top six pounds, timothy two pounds.

Old pastures or hay lands on poorly drained soils can be wonderfully improved by burning over early in the spring and seeding down to mixture No. 3. Use about half the amounts suggested for new seedings.

Feeding and Fertilization Values As Dry Roughage

CROP	lb. per bu.	May be inoculated by soils from	Does it do well on sour land?	Feed value compared with bran at \$32.00 per ton	Feeding analysis per 100 lbs of feed			Fertilizer per 1000 lbs. as green manure		
					Protein	Carbo.	Fat	Nitgn.	Phos. Acid	Ptsh.
Med. Red Clover	60	Red Alsike or Mammoth	fair	\$26.41	8	39	2	21	4	16
Alsike Clover	60	Red Alsike or Mammoth	fair—better than Red	\$29.00	8	37	1	21	7	17
Sweet Clover	60	Alfalfa or Sweet Clover	Just a little better than Alfalfa	\$27.10	11	38	1	23	7	13
Alfalfa	60	Alfalfa or Sweet Clover	No	\$29.60	11	39	1	24	5	23
Timothy	45	(not needed)	Yes		3	43	1	10	3	14

SEE "BLUE LIST" FOR PRICES

Pastures for Growing Hogs

Good pastures not only make cheap pork but keep the hogs in much better health and reduce the danger of hog cholera to a minimum. Other stock are healthier and happier and do much better on good pasture. What has the poor hog done that he should be deprived of the same privilege. Minn. Farm. Inst. No. 30.)

The second season pastures such as Clover, Sweet Clover, and Alfalfa make the earliest growth, but fellows who are renting or on new places cannot arrange for these. Their best friend among the quick pasture crops is Rape.



An Alfalfa Pasture Product

Rape Seeded as soon as spring opens, Rape should be ready to pasture in six or eight weeks. Four to five pounds of seed will make a good stand, better seed more than less.

Every spring I have some farmers tell me that the Rape seed which they bought the year before, grew up tall and the hogs wouldn't eat it. No, the hogs won't touch the Rape if it gets too coarse and woody. The thing to do is to get the hogs on it early in the game. Then if they don't keep it down, run over it with a mower.

But keep in mind that hogs will not fatten best on Rape alone, grain should be liberally supplied to make the best gains. With the grain feed, one acre of Rape pasture should support from 30 to 40 shotes.

Rape being a very juicy, succulent plant it is hard to cure as hay. When cured it is tasteless and flabby and not relished by live stock.

The Dwarf Essex is the only variety to seed. Old seed is likely to be very weak in germination. If in doubt send your seed to your state experiment station and have them test it for you. Another thing to watch out for is Mustard, the seed resembles Rape very much and is often found in considerable quantity.

At the Wisconsin station it was estimated that one acre of Rape produced feed equal to one and a quarter tons of mixed corn and wheat shorts. If this is the case it would give more feed to the acre than a forty bushel crop of corn.

Rape may be seeded at any time from early spring up to August when there is plenty of moisture. During a hot, dry period young rape plants are apt to die, but if well grown they stand considerable drought. Often seeded in the stubble of Winter Rye early oats or barley. The stubble can be disked, harrowed, and the crop planted.

Perhaps a better method is to broadcast two or three pounds on the grain that is just coming up in the spring, dragging the seed in lightly.

Canada Peas and Oats To follow Rape, as a mid-summer hog pasture I think you will find it hard to improve on a mixture of two bushels of Can-

adian Field Peas, with one bushel of medium early oats. If inoculated, the peas are a good soil builder and at the same time a splendid hog or sheep pasture. In order to get the best crop seed as soon as possible, on heavy loam or clay soil.

Sudan and Soy Beans As a hot weather pasture, Sudan (20 lbs.) with Soy Beans (60 lbs.) are said to do splendidly. I know that Rape and Sudan will do well together and this mixture with Soy Beans sounds even better. As in case of the Peas the land should be inoculated for the beans. No experiments have yet been made so far as I know to determine the exact feeding value of Sudan, "its palatability is unquestioned, being readily eaten by cattle, horses, sheep and hogs. It has none of the injurious effects of millet and is considered to be of superior value by feeders who have tried both." (Minn. Farm. Inst. Annual No. 30, page 46.)

Alfalfa If your hogs could pick their own pasture, it would be Alfalfa, sure as the world. Not only do they like it better than anything else, but they will do better—on less of it than any pasture you can sow. Of course there is no use seeding on land that is not well drained, or that is very sour, if you have your hog pastures in such a place, you must either move them or do without Alfalfa.

There is no argument as to the value of Alfalfa as hog pasture, the whole question is—can you grow it without too much monkey work? On well drained land—yes. On wet, poorly drained land—no.

My favorite way of seeding is to handle it just like clover, except do not seed so heavy of the nurse crop. Half a bushel of Barley is ideal. If your land is full of weed seed, it would be best to keep it clean until about the middle of June, then seed the alfalfa alone at the rate of ten pounds to the acre.

If you are going to seed some clover this year mix in some alfalfa just to see what it will do and at the same time get your land inoculated.

Grimm Alfalfa, which is known all over the United States for its hardiness and heavy yieldings originated in Carver County, Minnesota. The same year that I tried the patch of Grimm I tell about under "Permanent Pastures and Meadows." I also planted some Common Northern Grown, and some Turkestan. Both of these sorts killed out the first winter while the Grimm laughed at the winters for seven years and gave me some of the best crops I have ever grown.

Pastures for Growing Hogs (Continued)

Sweet Clover Next to Alfalfa the hogs take to Sweet Clover. If seeded early with a small grain nurse crop, Sweet Clover will furnish some fine pasture that same summer and autumn. Even if pastured up late into the fall this first year, it is not likely to winterkill. This gives it an advantage over both alfalfa and red clover.

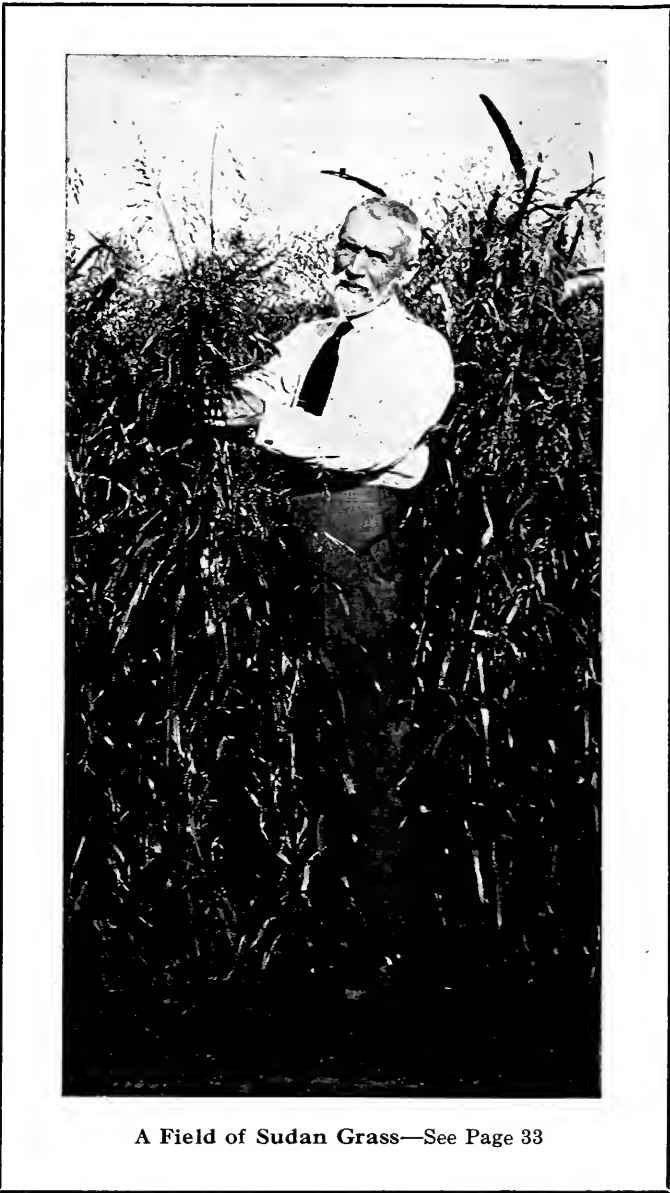
Then too, Sweet Clover is ready to pasture nearly ten days earlier than these crops, which is a big point in its favor.

If the plants are allowed to grow up big and coarse, the hogs object to their bitter taste and it will be necessary to go over the pasture with a mower, being careful to leave a high stubble.

For very poor sandy land I would use Sweet Clover. Also on soils that are not well enough drained for Red Clover, or Alfalfa. On such spots it is best to mix in some Alsike, Timothy and on very low places some Red Top.

Red Clover Most of you have had all sorts of experiences with Red Clover as hog pasture. I have just one suggestion to make. Do not pasture it too heavy. You will get far more feed to the acre if you let it keep ahead of the hogs and then make a cutting or two of hay. If you have never grown alfalfa or sweet clover it would be well to mix in a pound or two of one of these, to the acre, so that you will get your land inoculated. Then too, a little variety to the feed is a great thing for the hogs.

The last few years there has been a quantity of Italian seed sold. Altho I have never had any experience with it personally, I know of far too many farmers who have—to their disappointment. I make it a point to handle only Minnesota, and Wisconsin seed. Remember that your state experiment station will be glad to test your seed for you without charge. Any seed which you get from me, is shipped on approval and if you aren't absolutely satisfied with its purity and germination, I want you to be sure and send it back.



A Field of Sudan Grass—See Page 33

Special Information

Pasture Crop	Time to Seed	Amount of seed per acre	Ready to Pasture	Fair Yield per acre
Rape (alone)	Early as possible to August 1st	5 to 6 pounds	7 to 9 weeks from seeding	4000 lbs.
Canadian Peas and Oats	Same time as Oats (alone)	2 bu. Peas 1 bu. Oats	9 to 11 weeks from seeding	3200 lbs.
Sudan and Soy Beans	May 20th to July 1st	60 lbs. Soy Beans 20 lbs. Sudan	8 to 10 weeks from seeding	5500 lbs.
Alfalfa	Early as possible to Sept. 1st	12 to 14 lbs.	One year from seeding	6000 lbs.
Sweet Clover	Early as possible to Sept. 1st	10 to 12 lbs.	See discussion	4000 lbs.
Red Clover	Early as possible to Sept. 1st	8 to 10 lbs.	One year from seeding	3600 lbs.

For Prices See "Blue List"

Hogging Off Corn

Early spring hogs crowded for the October market are likely to bring you the best prices, because records show that in October prices for hogs are usually at about the top level for the year.

There is only a very slight difference in the average price from March 1st to October 1st, then the hogs take a quick slump and as a rule do not recover again until the following March.

In order to finish hogs off for an early market, it is not only necessary to have the litters come early but just as essential to have the stuff to finish them off on. Old corn is not only a scarce article at this time but not so economical as new corn that can be hogged down.

Hogging off corn is becoming more and more common in Minnesota. It is desirable that this form of harvesting a valuable crop should be extended. Experiments show beyond any question that fully as many pounds of pork can be produced per acre of corn when the hogs are allowed to help themselves as can be produced if the additional labor of husking and feeding the corn is done. It is also true that a corn field properly hogged off has less waste corn in it normally than a farm husked by hand or cut with a corn binder. It costs from \$3.00 to \$5.00 or \$6.00 per acre to husk an acre of corn and in so far as the hogs available on the farm can do this job between the time that the corn ripens and cold weather sets in, it is desirable to utilize them for that purpose.

An experiment conducted at University Farm covering two years where careful weights and tests were kept shows conclusively that there was an actual gain from allowing hogs to help themselves to the corn in the field over going to the additional labor of husking and feeding the corn. Average for the two years, the pigs using hog-off corn made a pound of pork with 1.24 pounds less grain than was required by the hogs in the dry yard.

OTHER ADVANTAGES

Aside from the greater returns from the hogs fed hogging-off corn, it has other advantages.

1. It provides a very simple and easy way of caring for hogs during the fall while the farm work is rushing and every moment is needed to take care of the fall work.

2. It makes it possible to utilize such catch crops as rape or clover that may be seeded in the corn at the last cultivation.

3. The corn cob, stalks and all except that utilized by the pigs are left in the field for fertilizer.

4. Any weeds or other foul stuff that is growing in the field is utilized by the hogs.

5. The hogs do a great deal of work in the field by rooting about, so that the ground is well worked up and a careful disking the following spring prepares it in excellent shape for the succeeding crop, and last, but not least, allowing hogs to range out in the open is more likely to preserve them in good health than when they are fed in small dirty pens or yards.

FENCING COSTS

About the only objection or difficulty involved in hogging off corn is the question of fences. If the field has a hog fence around the outside, very little difficulty is involved. Personally we feel that a regular hog ration should be provided on the farm with three or four fields prominently fenced with hog fence, these fields to be utilized for pasture and for raising corn to hog off. The fields should be just as big as can be utilized economically by the number of

hogs kept. The larger the field the smaller the cost per acre of fencing because of the smaller number of rods of fence required to enclose it.

Dakota Flint and Soy Beans

Here's the greatest early hogging off combination I know of. No trouble to have it ready for the hogs by the middle of August, in this section. **Dakota White** is a little eight rowed corn from

North Dakota, just the right height for the pigs to get at, stools liberally, and runs two to four and sometimes more ears on a plant.

Flint corn has many objections as a husking corn. I don't consider it worth while at all in localities where Minnesota No. 13 or similar kinds will mature. On the other hand it has just as many advantages as a hogging off crop. Earlier, more leafage which does not dry up so quickly, when the corn ripens—finer and more palatable, stocks and foliage. If planted in rows three feet apart it will yield nearly as heavy as the dent varieties, smaller ears but many more of them.

Wisconsin Black Soy Beans works in perfectly with this Flint corn. Ripens up at just the right time and fills out the bill-of-fare for the hogs. The beans supply the protein, and save the purchase of tankage for the hogs. I have heard it said that the hogs could not find the black beans—but my own experience has been to the contrary. Along with one half bushel of corn we drill ten pounds of W. B. Soy Beans. Some of the other varieties will do but most of them ripen up too late to be ready with this extra early corn.

The seeds can be mixed together in the planter box, but be careful to keep them well stirred or the seeding will not be even.

Dent Corn and Soy Beans

For later finishing of hogs, some good dent corn with **Elton** or **Ito San Soy Beans**. You can count on the beans for about one ton of forage, three times as rich as the corn fodder in protein.

Experts are of the opinion that the Soy Beans instead of decreasing the yield of corn, add to the fertility, and where the land is not too dry are a help rather than a hindrance to the corn.

If you have never seeded any soy beans try a few this year anyhow. Won't cost you much and you will get acquainted with them, ready to plant in quantity another year.

The beans are planted right in the rows with the corn. There are special attachments which can be had which help make the job of seeding more perfect. Without an attachment when seeding with dent corn the best way to handle it is to first drill the corn in the regular depth and then going over the rows again drilling the beans in not deeper than one inch. Drop the corn about 18 inches apart and the beans 6 inches in the row.

I would not recommend planting the larger varieties of Flint corns, such as Longfellow and King Phillip with soy beans as they have too much leafage at the base and would crowd the beans.

Whatever you do, don't plant "scrub" corn for hogging off. Each ear of corn will count just as much as tho you husked the corn and fed from the crib. My Minnesota No. 13 seed, or Freeborn White Dent will fill the bill in great shape.

For Prices see "Blue List"

Root Crops and Pumpkins

THE story is told of the young college professor who discussed wisely, scientifically, long and somewhat disparagingly the amount of water in the roots commonly fed in Ontario, saying finally, "They contain almost only water." This aroused the old Scotchman who had fed stock all his life and who had been listening. He could now contain himself no longer, exclaiming, "But it's awful good water." Roots have a place on every farm.

Roots are nature's ready-made succulent feed for winter. From earliest times roots have formed the basis of successful winter feeding of live stock in all of the most important live stock districts of Canada, Denmark, Sweden, Germany, Holland, and the British Isles, all depend on root crops for their succulent winter feed.

The feeding value of roots such as beets, mangels, and rutabagas as compared with silage is in the ratio of approximately three to four. A daily feed of forty pounds of roots will take the place of about thirty pounds of corn silage, in other words, three tons of corn silage is equivalent to four tons of roots, so that a yield of sixteen tons of roots per acre furnishes about the same digestive nutriments in succulent form as will an acre of corn yielding twelve tons of silage.

Pounds of dry matter and Digestible Nutrients in one hundred pounds ensilage, potatoes and roots:

	Dry Mat.	Digestible		
		Prot.	C. H.	Fat
Corn Silage.....	26.0	1.2	14.0	0.7
Potatoes.....	21.0	1.1	16.0	0.1
Sugar Beets.....	13.0	1.3	10.0	0.1
Rutabagas.....	11.0	1.0	8.0	0.2
Common Beets.....	11.0	1.2	8.0	0.1
Carrots.....	11.0	.8	8.0	0.2
Flat Turnips.....	10.0	.9	6.0	0.1
Mangels.....	9.0	1.0	5.0	0.2
Pumpkins.....	8.3	1.1	4.5	0.5

Rutabagas Rutabagas are highly prized as feed by English and Canadian stockmen. They are coming into more favor in the United States. Sheep and hogs are especially fond of this root crop. When fed to dairy cows, it is apt to taint the milk unless fed after milking.

From 2 to 5 pounds of seed, averaging about 4 pounds is usually drilled from 1/2 to 3/4 of an inch deep in rows about 30 inches apart. The seeding is done as soon as settled weather arrives in the spring.

Rutabagas are cultivated and thinned to 7 1/2 inches apart in the row in the same manner as beets.

They are harvested and stored the same as are mangels. Rutabagas do not keep as well as mangels and when both crops are raised, the bagas are used first. With proper care, however, rutabagas can be kept until spring. Rutabagas will withstand considerable frost with no apparent injury. In some places hogs and sheep are allowed to harvest the crop from the field. Bagas should yield from 10 to 18 tons per acre.

Carrots Carrots rank between mangels and sugar beets in feeding value. They are most often fed to show horses, some feeders claiming for them a beneficial tonic effect. They are equal to rutabagas and better than mangels for dairy cows.

Carrot seed is drilled in rows 18 to 36 inches apart at the rate of 4 to 6 pounds of good seed per acre. The distance between the rows depends on the machinery available for cultivation. It will also affect the rate of seeding. The seed should be planted on or very near the surface. Sometimes the seed is moistened or mixed with wet sand for a few days to induce more rapid germination.

The seed requires 10 to 14 days to germinate. As soon as the young plants show above ground, cultivation should be begun and continued until the tops meet between the rows. When large enough to handle, the carrots should be thinned to about three inches apart in the row. Carrots should yield from 10 to 25 tons of roots and 3 or 4 tons of tops per acre.

Pumpkins Forest Henry of the Farmers' Institute writes: "For years it has been our practice to grow pumpkins by the acre for our hogs. We tried squashes for this purpose, but found we could not get nearly the bulk and so discarded them for stock feed, and use only the pumpkins.

When the pumpkins are grown as they should be, a surprisingly large amount of feed may be raised on an acre of rich soil. We find the pumpkins to be the ideal preventive of worms in hogs, and they also act as a corrective when the pigs are being heavily corn fed for market. The pumpkin seeds will positively destroy intestinal worms.

If you want hogs free from worms and disease, grow pumpkins and feed them, seeds and all, to your hogs. If you want to get from ten to twenty per cent more out of every bushel of corn, grow pumpkins and and feed them with the corn. They keep the bowels in good condition, keep the stomach cool and improve the digestion."

Mangel Beets Mammoth Long Red and Golden Tankard or Gatepost are the most common types of mangels grown. They're known and sold under a great variety of stock names, many seedsmen giving their stock of seed a particular "brand" which means nothing to the purchaser. Giant Sugar Feeding mangels are a hybrid between true mangels and their highly developed descendants, the sugar beets. As these root crops cross readily, numerous types may be found in any one field, and very little commercial seed will be true to any given variety.

Six or eight, sometimes 10 pounds of seed per acre is used, drilling it from 1/2 to 1 inch deep in rows far enough apart to be cultivated with the implements at hand. 20 to 30 inches is customary. Either a common grain drill or sugar beet machinery may be used.

Mangels are usually sliced or pulped before being fed. The sliced or pulped roots are often mixed with chopped straw or hay and allowed to stand until slightly fermented. In this form, cattle or sheep will eat coarse roughage readily which if fed alone would be untouched. In feeding value corn silage and sugar beets may be compared with mangels as follows:

That is if mangels were worth \$3.00 per ton, sugar beets would be worth about \$5.00 and silage \$7.50.

	oz.	1/4 lb.	1 lb.	5l bs.	25lbs.
Beets.....	\$.10	\$.20	\$.65	\$2.75	\$12.00
Carrots.....	.10	.25	.75	3.25	
Pumpkins....	.10	.35	1.00	4.50	
Turnips.....	.10	.35	1.00	4.50	
Bagas.....	.10	.35	1.00	4.50	

Fodder and Ensilage Crops

Whether you cut your corn and put it into the silo, shock and feed from the bundles or shred, you are looking for one and the same thing. A heavy yielding corn with a large amount of foliage. There are two general seedings which I use, each suited to certain conditions.

Soy Beans, Dent Corn This is the same combination which I have just mentioned under "Hogging off Corns." Soy beans are always a good feed for cattle but particularly desirable where a quantity of clover or alfalfa hay can not be had. They will save you good money, by helping to take the place of the oil meal which you would otherwise need for the herd. They contain 145% more digestible protein than the corn and 40% more fat. As in case of the hogging off, a variety of Soy beans should be used which will mature at the same time as the corn.

With varieties like the Minnesota No. 13, the Elton is the best bean I know of for ensilage. The Wisconsin Black is not desirable as it ripens too early, and is so low growing that most of the beans will be left in the stubble. While I think of it, I want to say that when you drill beans in with the corn, there will always be a quantity of good feed left in the stubble which can be pastured, or turned under for soil improvement.

Whatever sort of corn you are growing, let me know how it compares with Silver King, or Minnesota No. 13, and I will match it with a suitable variety of Soy Beans. If you will make sure of this point, and see to it that your beans are inoculated, you should raise a great crop of ensilage or fodder.

Corn cut after it is well ripened but before the leaves have dried up makes ideal silage. When the season is late, the question arises as to whether it is best to put up the corn early, or wait for it to mature as much as possible before a freeze. Better let it mature. If the frost does catch it, it will not be injured. Should it dry up considerably before cutting, add about an equal amount of water. Silage made this way makes better feed than when cut too green.

Longfellow Flint To my mind the Flint corns are naturally better adapted to planting alone for ensilage (or fodder) than the dent varieties. In order

to select the one best suited for our conditions I made a series of trial plantings.

Longfellow Flint, I selected as the best all round variety. Now there are all sorts of strains of the Longfellow, one type from North Dakota is worthless for fodder, too low growing to catch with the binder. Then there is an eastern type which not only lacks the leafage but does not stand up well against the winds.

But there is a special strain which I found ideally suited to ensilage. It is a northern grown sort which has been taken down to Nebraska for one year. The seed can be matured better in Nebraska and when taken back again to a more moist climate, the corn has a tendency to produce a greater amount of leafage.

On lands too wet for Soy Beans I would recommend Longfellow.

Mammoth Silo Corn Here's a fodder crop for the farmer who is apt to be short of hay or other roughage. You cannot be sure that it will mature in our climate but you can depend upon its giving you a tremendous amount of forage. It would give you the maximum fodder if some late variety of Soy Beans were mixed in with it. Mammoth Yellow is a good sort.

Evergreen Sweet Corn Because of its sweetness, the cattle take wonderfully to Evergreen. It is too small however to suit me. It is a common notion that the sweet corn has a higher feed value but experiments show that it runs rather lower if anything than the dent or Flint. Would be glad to furnish you the seed however if you insist on it.

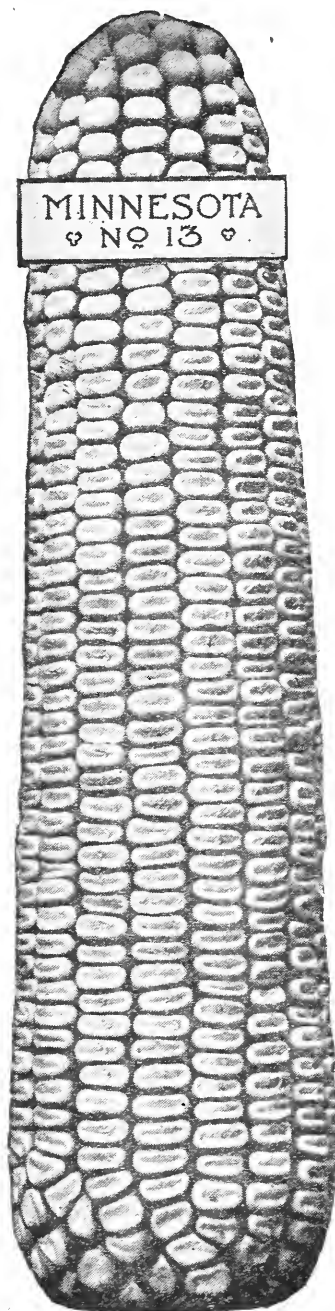
Sorghum and Sudan As a practical ensilage and fodder crop Sorghum Cane comes next to Corn. It is a great favorite with cows because of its sweetness. Some farmers have splendid success drilling in three or four pounds of Cane seed with the corn. I have an early strain of Amber Cane which will mature a crop of seed along with the forage. Sudan Grass is also mixed with the corn and makes a good palatable feed. I have grown it separately and alternated the bundles thru the cutter, this makes splendid feed but it is hard to handle the Sudan with the corn binder.

ENSILAGE AND FODDER CROPS	DIGESTIBLE NUTRIENTS IN 100 LBS.				
	Dry Matter per 100 lbs.	Crude Protein	Carbohy- drates	Fat	Total
Average Corn	21.9	1.0	12.8	.4	14.7
Dent Corn, in tassel	14.9	1.0	8.2	.4	10.7
Dent Corn, in milk	19.9	1.0	12.1	.5	14.2
Dent Corn, dough to glazing	25.1	1.3	15.4	.7	18.3
Dent Corn, kernels ripe	34.8	1.5	21.1	.8	24.4
Flint Corn, average	20.7	1.0	12.4	.4	14.3
Sweet Corn, roasting ears	20.3	1.2	12.0	.4	14.1
Sweet Sorghum	24.9	.7	14.1	.6	16.2
Soy Beans and Dent Corn (average)	21.8	1.7	13.6	.6	16.7

NOTE: You will notice that the Soy Beans and corn is an average. If only mature corn had been used, without doubt the protein per cent would have been much higher.

For Prices See "Blue List"

Seed Corn



NEXT fall when the corn is well dented pick up a brother farmer and take a week's vacation among the corn fields of your county. I did that several years ago just after a destructive September frost, and found out more about corn than I had learned in all the 40 years that I have been farming.

I found one-fifth of of the fields planted too thick. When you get in more than three stalks to the hill, unless the ground is extra good, the nubbins and barren stalks begin to show up badly. I found some fields in quite poor ground where 5 to 7 stalks were the common thing. Mighty poor husking. A poor corn planter is the most expensive tool a man can keep on his place.

More than half the fields were planted to run-out corn. The scrub bull and stallion have been made the target of so much abuse that they are getting scarce, but scrub seed corn is still at large, cutting down the prospect of big yields in thousands of fields. Mark you, I don't mean mixed corn. That's more common than it ought to be, but the pointed, peaked ears shaped like a letter "A" that have no shelling qualities on the upper half. Another big leak.

It's a mighty good practice to keep a years supply of seed corn ahead all the time. Second year corn if well kept will germinate just as well as the first year. You remember back in 1917 when most of us were caught without anything in the shape of seed for the spring of 1918. Those of you who have been farming longer will remember many other times when you were pinched just as badly. What a comfortable feeling it would have given you to have known that up in the garret you had some two year old seed which was absolutely dependable.

If you aren't quite satisfied with the sort of corn you have been growing send along your order for some of the Freeborn White, or Minnesota No. 13, if you prefer a yellow corn. Then save your own seed to assure you of next year's supply.

A. C. Army of the University Farm writes in the Minn. Farmer's Institute: "Live stock men go to considerable expense to procure new animals from

the same breed, in order to secure the beneficial effects of mating animals not too closely related. Corn grown on the same farm for several years shows the effect of inbreeding, in a low yield. It is well to secure each year from a neighboring grower a few good seed ears of the same variety, in order to introduce new individuals and thus reduce the amount of inbreeding."

I have some mighty good seed this year to use just as Mr. Army suggests here. Maybe you have something just as good, I hope so; then why not improve your yield by putting new blood into your corn? Of course you do not want to plant two sorts of seed which are very different. Select the variety most like the kind which you are now growing.

Personally, I am in revolt against the high bred nubbin. It may have nicely filled, butts and tips with prettily marked rows of kernels, but I want an ear that has some length to it, that I can grasp when husking, and that will bulk up as it is tossed into the wagon.

Freeborn Dent

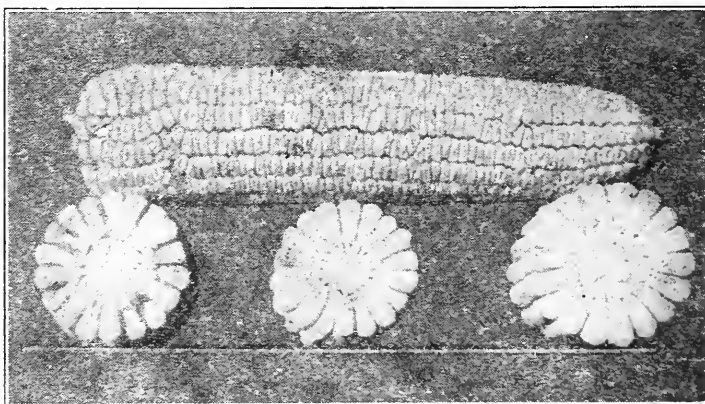
We think that we have found such an ear in **Freeborn Dent**. It was fun to get into a field of it this year after going over field after field of common corn. It is a white corn that has Silver King blood in it, with deep kernels well dented to the tip, but the ear is longer, the cob smaller and it is as early as No. 13. At least it has matured both in 1915 and 1917, which ought to prove it early enough up to St. Paul.

Murdock

I don't believe there is any corn that we can grow in Minnesota more showy than a rich golden yellow ear of the Murdock. It is a kind bred to suit the present day notion of the straight rows thoroughly dented with deep kernels, well filled to the tip, of the richest golden yellow color. The Murdock has the common fault of the yellow varieties in being a little thin at the tip of the ear but it's a splendid variety, maturing with the Silver King.

Minn. No. 13

Few varieties of field corn have had more popularity than this early corn, originated at the Minnesota College of Agriculture many years ago; falling into so many different hands the type varies. Ours is a longer ear than common, but with a small cob and deep kernels peculiar to the breed. Decidedly early and safe to plant south of St. Paul.



Spraying Made Simple

I want to warn you right at the start that this isn't a spraying table written for college professors. If you are looking for one of this sort the government books are full of them, but the ordinary mortal ends up just where he started because he isn't on speaking terms with the "Curculio", the "Anthracnose" and a hundred other pests of bugologist fame.

Who would recognize "Diabrotica vittata" as our old time friend the Melon Bug—or beetle, if you please.

Of course these are all figured for this section of the country. If you live any great distance I will be glad to give you special instructions. All the spraying dope I handle, except "Black Leaf 40" is in the dry powdered form.

Apple Trees There are five or six common apple pests in this part of the country. All of them may be pretty well controlled by three mixed sprays. We sold thousands of bushels of apples to farmers this fall who should have had fruit of their own. Most of them were anxious to spray but wanted to know just exactly how to go at it.

FIRST SPRAY: This is a strong solution, applied just when the buds begin to show pink. It is the most important of the three. Be careful not to

use this mixture later on as it will burn the leaves. Figure approximately one gallon per tree. (The mixture is made up of: 50 gals. Water; 12 lbs. Lime Sulphur; 1½ lbs. Arsenate of Lead).

SECOND SPRAY: A somewhat weaker spray put on just after the petals have dropped from the blossoms. Even this mixture is too strong to use after the leaves appear. Figure around a gallon and a half to the tree. (50 gals. Water; 2½ lbs. Lime Sulphur; 1½ lbs. Arsenate of Lead).

THIRD SPRAY: Weakest of the three. Applied ten days to two weeks later than the third spray. Figure about two gallons per tree. (50 gals. Water; 1½ lbs. Arsenate of Lead).

Spraying Machines I have not had space to list any spraying machines. The one we handle, the "Utility" is made right here in Albert Lea. A splendid machine and sold at a reasonable price. Let me know what you need to spray and I will send along their catalog, marking the machine I think best adapted to the job. They have a complete line so you are pretty sure to find what you want.

The nozzle which they furnish can also be used for white-washing. That is of course if the material has been strained first.

Here It Is Figured Out For You

Special Spraying Assortments

Complete for Three Sprays

Express or Freight only. Not Prepaid

Order by Letter	MATERIAL FOR 10 TREE ORCHARD	Prices
A	Trees Set 10 to 15 years (3 lbs. Lime Sulphur, 1 lb. Arsenate of Lead).....	\$ 1.75
B	Trees Set 15 to 25 years (5 lbs. Lime Sulphur, 1½ lbs. Arsenate of Lead).....	2.40
C	Trees Set 25 years or older (8 lbs. Lime Sulphur, 2½ lbs. Arsenate of Lead).....	4.05

MATERIAL FOR 25 TREE ORCHARD

D	Trees Set 10 to 15 years (6 lbs. Lime Sulphur, 2 lbs. Arsenate of Lead).....	3.05
E	Trees Set 15 to 25 years (15 lbs. Lime Sulphur, 4 lbs. Arsenate of Lead).....	6.50
F	Trees Set 25 years or older (20 lbs. Lime Sulphur, 6 lbs. Arsenate of Lead).....	8.75

MATERIAL FOR 50 TREE ORCHARD

E	Trees Set 10 to 15 years (15 lbs. Lime Sulphur, 4 lbs. Arsenate of Lead).....	6.50
G	Trees Set 15 to 25 years (25 lbs. Lime Sulphur, 8 lbs. Arsenate of Lead).....	10.50
H	Trees Set 25 years or older (40 lbs. Lime Sulphur, 12 lbs. Arsenate of Lead).....	15.75

MATERIAL FOR 100 TREE ORCHARD

G	Trees Set 10 to 15 years (25 lbs. Lime Sulphur, 8 lbs. Arsenate of Lead).....	10.50
I	Trees Set 15 to 25 years (50 lbs. Lime Sulphur, 16 lbs. Arsenate of Lead).....	19.75
J	Trees Set 25 years or older (75 lbs. Lime Sulphur, 25 lbs. Arsenate of Lead).....	28.25

(Simple instructions for mixing each spray sent free with every assortment.)

Spraying Made Simple--Continued

Cabbage Worm Here's about the easiest pest of the whole lot to get rid of. He has a dislike for any sort of dust. Even road dust or wood ashes will help make life miserable for him, but in order to kill him once and for all I would dust on some Arsenate of Lead mixed as follows:

For each 1000 head of Cabbage: 1 lb. Arsenate of Lead; 10 lbs. Air Slacked or Hydrated Lime. (Flour, road dust or wood ashes).

(A piece of burlap tied over the top of a can will make a good duster).

Cut Worm This is, I think, one of the hardest fellows to handle. Before any green stuff has started in the spring you may mix up the bran mash which I give below, scattering it around the garden. Remember that this will be fatal to chickens, dogs or any other animal which may taste it. On sod land you can almost bank on having some cut-worms—why not get at it early and do what you can to kill them off. After they start to do their destructive work, the only thing I know of which may help is to dig them up from around the plants which you see they have cut, and kill them. Scatter the bait late in the afternoon.

Here's enough cut-worm mash for one acre: Bran 50 lbs.; Arsenate of Lead 1 lb.; Molasses 1 gal.; Water 1½ gals.

(Mix the Bran and Arsenate first then thin the molasses with the water and stir together).

Currants and Gooseberries Most of our trouble around here with currants (and gooseberries) comes from the currant worm. These are easily killed if sprayed in season, with "Black Leaf 40" a tobacco product which is not so dangerous to use as some other sprays. The plant lice also are common visitors so it is best to set the table for both of them. Start spraying as soon as the leaf buds commence to open. Another spray in two weeks may be necessary. Since some Arsenate is used, (a poison) it is best to wash the fruit before using.

One gallon of spray should cover 25 bushes, more or less. Here's the way to mix it:

10 gals. Soapy Water; 4 table spoons "Black Leaf 40"; ½ pt. Arsenate of Lead.

(Remember to thoroughly wash the spoon after using.)

Melon Bugs If you are human, these vine bugs are going to cause you some worry; they may not do much damage but they are pretty sure to at least make you a visit. But if you are on the job you can make the visit a mighty short and unplesant one for them.

Just as soon as the seed sprout shows above the ground you should get busy. Most of the experiment stations advise some such mixture as this:

Two-thirds oz. Arsenate of Lead (10 level tea-spoons) to 1 gal. Soapy Water.

I have no doubt but this would be a splendid remedy if one were able to spray it thoroughly enough under the leaves, but I have not been successful with it myself.

Mr. Geo. W. Hughes writes from Glenwood: "Plant a hill of pumpkin or squash between each hill of cucumber. They will grow faster than the cucumbers and furnish such quantities of feed for the bugs that they will ignore the cucumbers until they are strong enough to stand the bugs."

A good suggestion but only partially does the business with me. The best single remedy to my mind is Tobacco Dust. I don't guarantee that it will keep every last bug out of your patch but it will make them mighty scarce—they hate it like a hen hates water. A tablespoon full around each hill will do the business. By all means have the dust on hand early enough and you will give them the surprise of their lives. You will need about

1 lb. of Tobacco Dust with every ounce of melon and cucumber seed.

Potato Bugs The most common and to my notion the poorest spray for the potato bug, is Paris Green. It certainly will do the business but the fault I find is that it is almost sure to do some damage to the leaves. Why not use Arsenate of Lead? It is just as effective and is not at all likely to burn the foliage even if used much stronger than necessary. Another good point the Arsenate sticks more than four times as well as the Paris Green. While the Arsenate is poisonous it is not nearly so dangerous to have about as the Paris Green.

For small patches the dust spray seems to me to be the simplest method:

Each acre requires about 6 lbs. Arsenate of Lead; 50 lbs. hydrated lime, or road dust or flour.

If the liquid spray is used, 1 lb. Arsenate; 50 gals. soapy water.

The most important part is to get this spray on early, when the first eggs of the bugs start to hatch.

Roses Most of the troubles with Roses, Sweet Peas and annual flowers can be controlled with "Black Leaf 40." It's a mighty handy remedy to have around the place. House plants are so often troubled with the "red spider."

This is the correct spray:
Use 2 Tablespoonfuls "Black Leaf 40", to 5 gals. soapy water.

PRICES ON SPRAYING MATERIALS	1 lb.	5 lbs.	10 lbs.	25 lbs.	50 lbs.	100 lbs.
Arsenate of Lead (Dry form. Goes twice as far as paste form).....	\$.75	\$3.50	\$6.00	\$14.50	\$27.50	\$50.00
Lime Sulphur (Dry Powdered).....		1.25	2.25	4.75	9.00	17.50
Tobacco Dust.....	25.	1.00	1.75	4.00	7.50	12.50
"Black Leaf 40"..... 1 oz. Bottle (Makes 6 gal.) 25c; ½ pt. Can	\$1.00;	2 lb. Can	\$3.25;	10 lb. Can	\$13.75.	

NOTE: Spraying materials cannot be mailed. Are sent freight or express. Not prepaid.

Suggestions to Lawn Makers



IN town the lawn is made mostly to look pretty, but out in the country we can really enjoy it, even tho it may not always be kept as spick and span as we would like to have it. I guess there is not one of us but likes, along about strawberry time, to find some shady spot where the grass is soft and sprawl out for a little mid-day nap.

It's the one thing about the place that keeps plugging away every year with little or no attention, except of course an occasional cutting. Fact is we don't give it the care it deserves.

One thing you might do right now, scatter a liberal quantity of well rotted manure over the sod and leave it there long enough for the early spring showers to wash it into the soil. If you live in the city you will find the commercial sheep manure a very satisfactory fertilizer.

And why not seed down those bare spots. If the grass is thin it would be best to reseed the whole lawn. Be sure you do this early so the new grass will have a chance to make root before the old sod gets too well started. The **Reseeding Mixture** is the same as the **Standard Mixture** except that it has no Red Top in it and on this account will not make so quick a show.

Stir up the ground with a garden rake, seed, and then rake into the ground as best you can. Remember you can't do this too early. If the ground is still frozen, never mind the rake, the seed will be taken care of itself.

If I were to give three rules for starting a new lawn they would be (1) Seed early, (2) Seed heavy, (3) Seed my **Standard Mixture**. Nothing patented about this mixture, it's just the combination recommended in Farmer's Bulletin No. 494, which by the way is a great little pamphlet and those of you who are making a new lawn or fixing up an old one should send for it.

This bulletin gave me some pointers about **Shady Place Mixtures** and if you have any extra shady spots you had better include some of this in your order.

For a new lawn figure one pound of seed to each 300 square feet. That is if you have a patch 20 feet wide by 30 feet long, it would take about two pounds. 100 pounds to the acre. About half as much for reseeding old lawns. Be sure you order enough, then if you find you have any left over you can ship it back anytime within fifteen days and I will refund.

Prepaid Prices on Lawn Seeds:

	Lb. 10 Lbs. 50 Lbs.				Lb. 10 Lbs. 50 Lbs.		
Standard Mixture (For new lawns).....	\$.50	4.00	18.50	*White Clover .....	.75	7.00	
Reseeding Mixture (For touching up old lawns).....	.50	4.35	19.75	*Blue Grass (This seed is best quality. 21 lbs. to bu.....	.50	4.00	
Shady Place Mixture (For very shady spots).....	50	4.00	18.50	(*Subject to market changes)			

Some Ideas on Gardening for 1921

By
Clarence Wedge

**WEDGE
SEEDS**

ALBERT LEA
MINN.